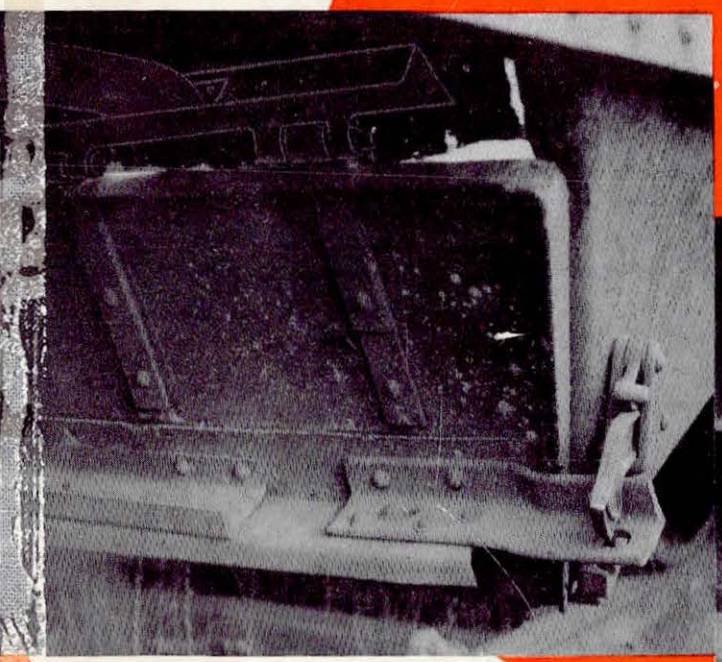
MARCH 7, 1942

Railway Age

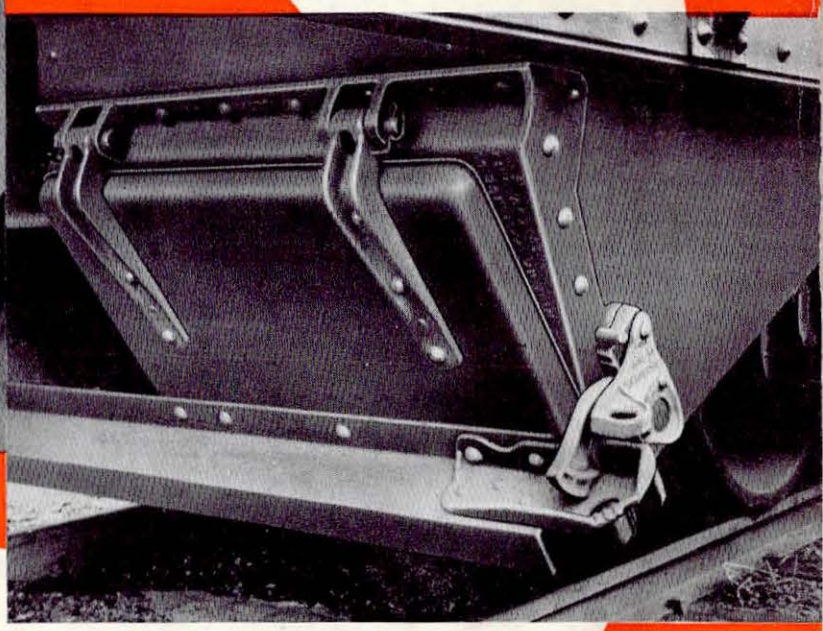
Founded in 1856

McCARTNEY LIBRARY
GENEVA COLLEGE
M5303

Stop LOSS OF LADING WITH Wine HOPPER FRAMES



WITHOUT WINE HOPPER FRAMES
•
WEAKNESS • DETERIORATION
CORROSION • DISTORTION



WITH WINE HOPPER FRAMES
•
PERMANENT DOOR FIT
INCREASED STRENGTH

THE Wine RAILWAY APPLIANCE CO.
TOLEDO OHIO

UNIT TRUCK
FEATURES ARE OUTSTANDING

There it is!

The simplest, safest and strongest brake beam suspension employed on freight cars. There is nothing to compare with Unit Truck for low cost of maintenance. It is lighter in weight, saves steel and produces all around savings in operation.

Approved for interchange.

Full information as to licensees authorized to manufacture Unit Trucks will be furnished upon request.

UNIT TRUCK CORPORATION

140 CEDAR STREET NEW YORK, N. Y.

Published weekly by Simmons-Boardman Publishing Corporation, 1309 Noble Street, Philadelphia, Pa. Entered as second class matter, January 4, 1933, at the Post Office at Philadelphia, Pa., under the act of March 3, 1879. Subscription price $6.00 for one year U. S. and Canada. Single copies, 25 cents each. Vol. 112, No. 10.

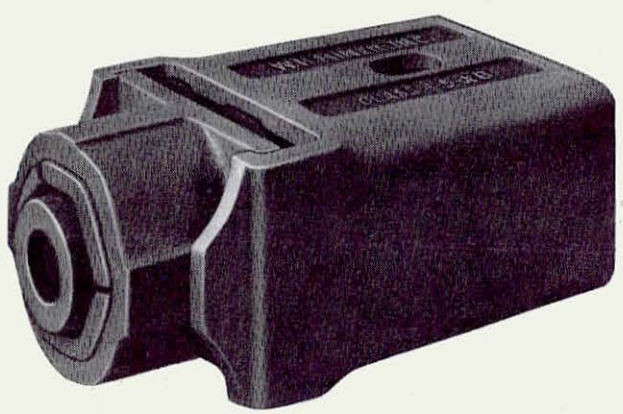
ONE RAILROAD

ONE ORDER

ONE THOUSAND

MINER

CLASS A-5-XB DRAFT GEARS FOR PASSENGER EQUIPMENT



Not an experimental gear—
Its worth and efficiency
are being demonstrated on
THOUSANDS
of cars.

W. H. MINER, INC. CHICAGO

EDGEW

Contribute Im

Above photograph shows Pacific Fruit Express Car 45025. This car is one of the group recently built and equipped with Edgewater Ring Spring Draft Gears — the Gear with high capacity and low weight.

UNION PACIFIC — THE OVERLAND ROUTE

PACIFIC FRUIT EXPRESS

SOUTHERN PACIFIC LINES

IMPORTANT FACTORS
CONTRIBUTED BY
EDGEWATER DRAFT GEARS

1—CAPACITY
High capacity provides efficient cushioning to protect cars.

2—ENDURANCE
Long gear life provides continued protection.

3—SMOOTH ACTION
Closes smoothly at high speeds or low.

4—UNIFORMITY
All gears have uniformly high quality.

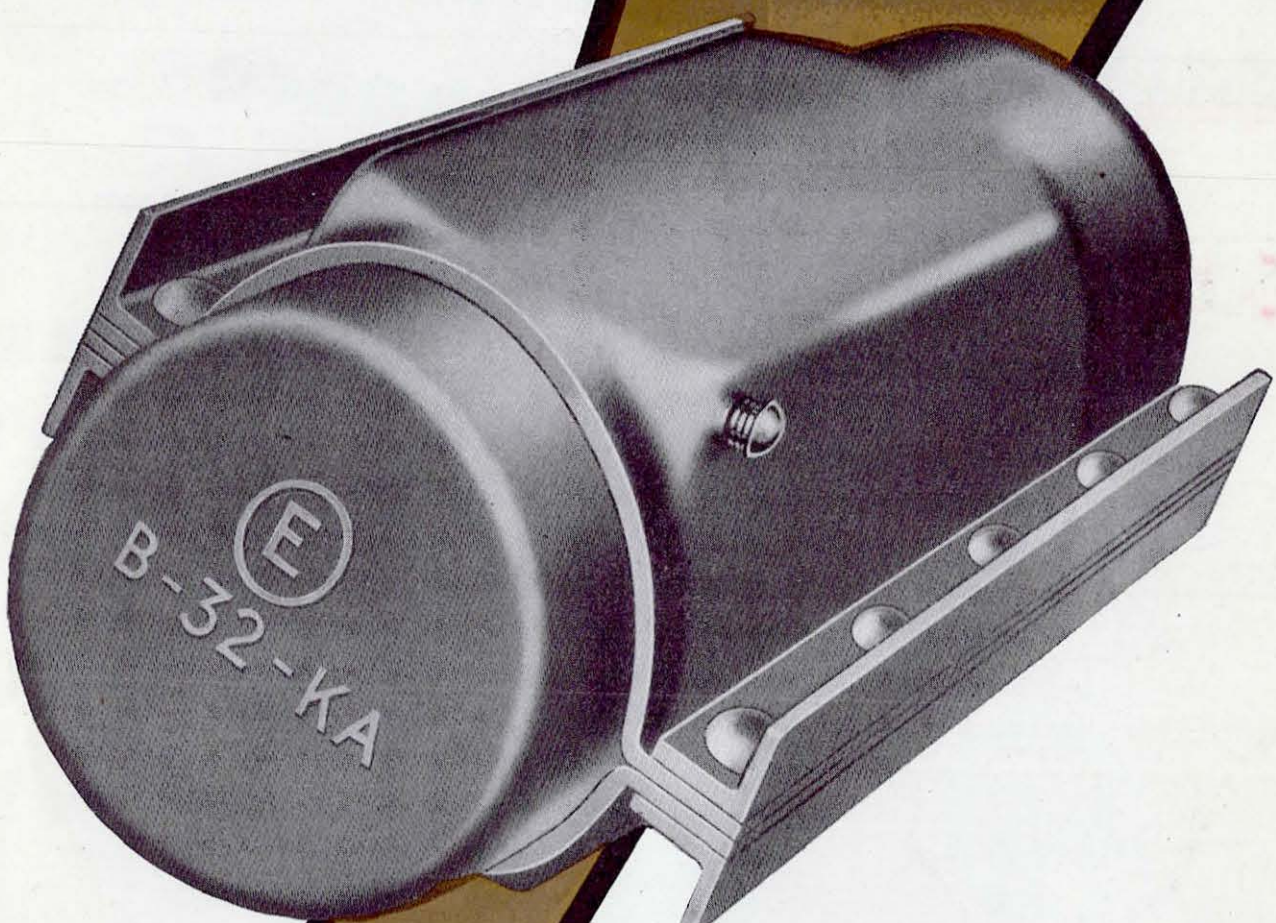
5—RELEASE
Release is quick and positive after impact. Destructive surges are prevented.

6—SIMPLICITY
It is furnished as a single selfcontained unit.

EDGEWATER STEEL COMPANY • PITTSBURGH, PA.

ATER DRAFT GEARS

portant Factors to Freight Car Progress



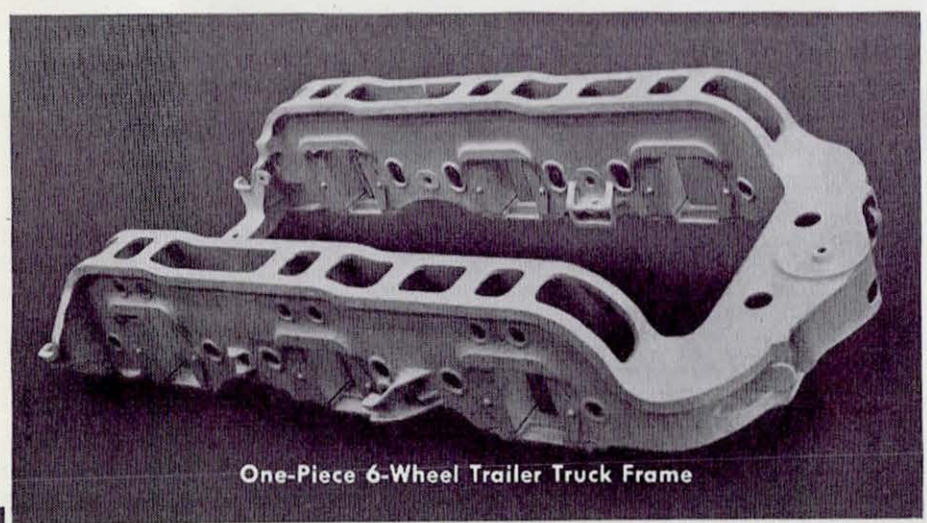
Atlanta, Ga. Baltimore, Md. Boston, Mass. Chicago, Ill. Cleveland, O. Kansas City, Mo. Louisville, Ky. New York, N.Y
Philadelphia, Pa. Portland, Ore. St. Louis, Mo. St. Paul, Minn. San Francisco, Cal. Seattle, Wash. Tulsa, Okla. Washington, D.C.

More Modern Power for America

COMMONWEALTH PRODUCTS

Assure Maximum Availability, Less Maintenance *for*

CHESAPEAKE AND OHIO'S NEW FLEET OF 2-6-6-6's

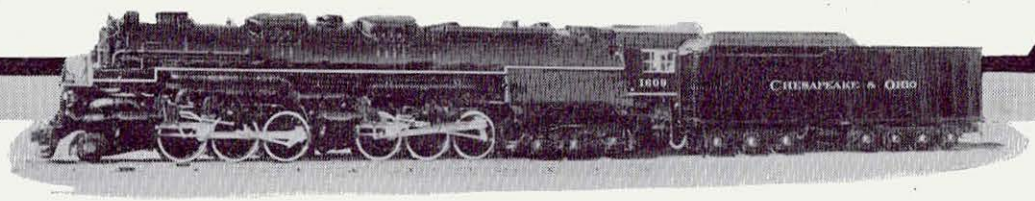


One-Piece 6-Wheel Trailer Truck Frame

One-Piece Locomotive Bed—Rear Unit

GENERAL STEEL

at War!



Built by Lima Locomotive Works

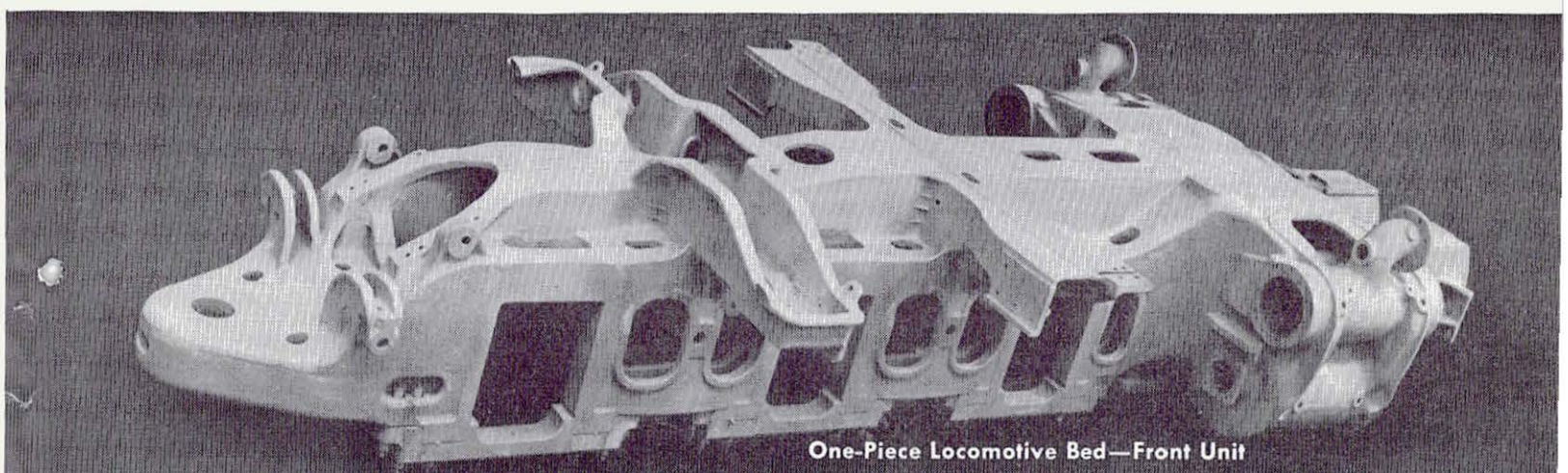
THE new 2-6-6-6 type locomotives just completed by Lima for Chesapeake and Ohio Railroad have 67″ diameter drivers, tractive force of 110,200 lbs., and are now in service handling heavy coal trains with increased speed over the Allegheny Mountains.

These super-power locomotives, designed for intensive service, are equipped with the following **COMMONWEALTH CAST STEEL PRODUCTS:**

- ★ **Locomotive Beds—Front and Rear Units**
- ★ **2-Wheel Outside Journal Engine Trucks**
- ★ **Pilots and Pilot Beams**
- ★ **6-Wheel Trailer Trucks**
- ★ **Waterbottom Tender Frames**
- ★ **Tender Trucks (Swing-Motion, Equalized)**
  1—6-Wheel
  1—8-Wheel } **on 3 locomotives**

The C. & O. joins other leading Railroads in recognizing the many advantages of **COMMONWEALTH PRODUCTS.** These advantages have never been so important as they are today when Wartime industrial production and military traffic make it essential that all locomotives be kept working with a minimum of maintenance and shopping delays.

COMMONWEALTH Devices assure simplified construction — maximum strength — superior locomotive performance.

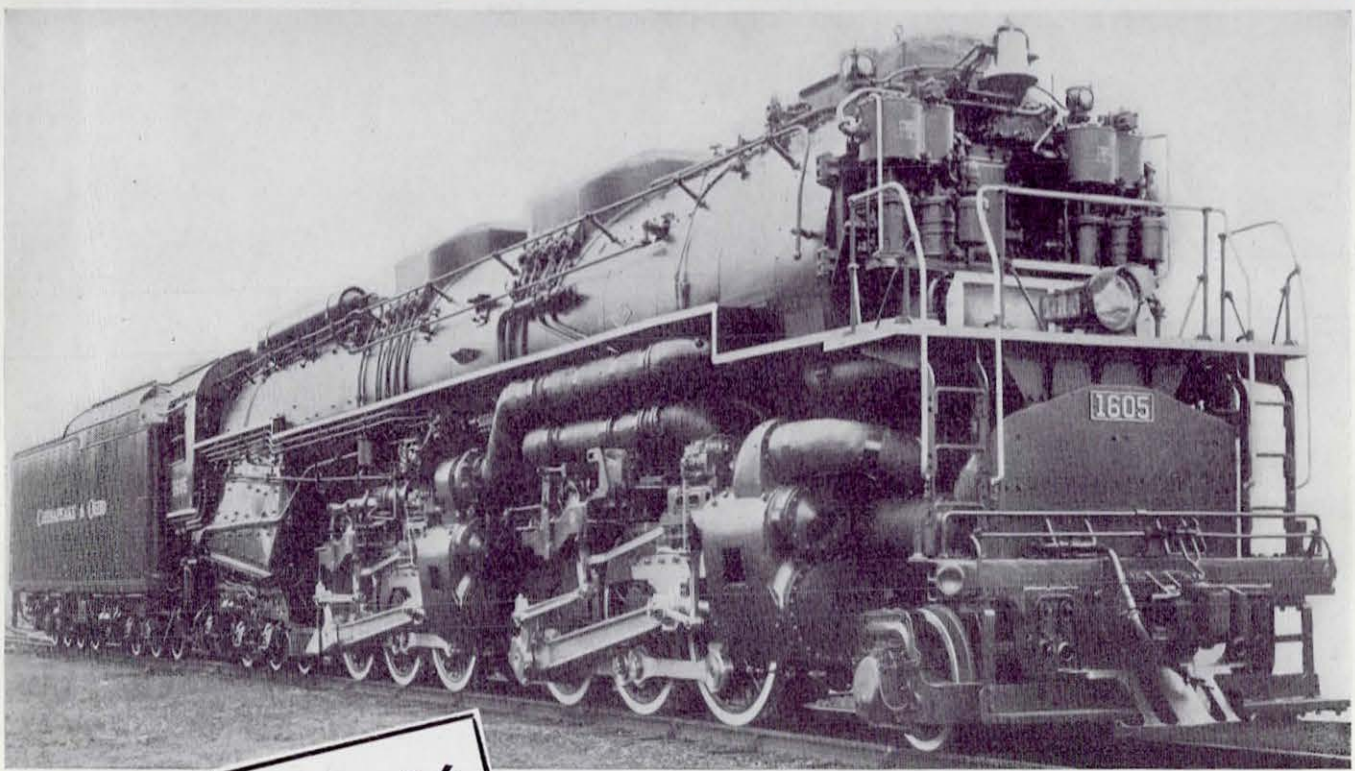


One-Piece Locomotive Bed—Front Unit

COMMONWEALTH CASTINGS

EDDYSTONE, PA.
GRANITE CITY, ILL.

BARCO Products Serve the Nation's Finest



10 New Type 2-6-6-6 Freight Locomotives Recently Completed For The CHESAPEAKE & OHIO RAILROAD. 10 More On Order.

BARCO'S advanced design, engineering and manufacturing facilities are meeting the demands of Modern Power on many of the nation's finest trains and locomotives.

This widespread acceptance of BARCO PRODUCTS is significant of their proven ability to provide the EXTRA VALUES that have helped the railroads establish and maintain the highest level of dependability, efficiency and safety in their history.

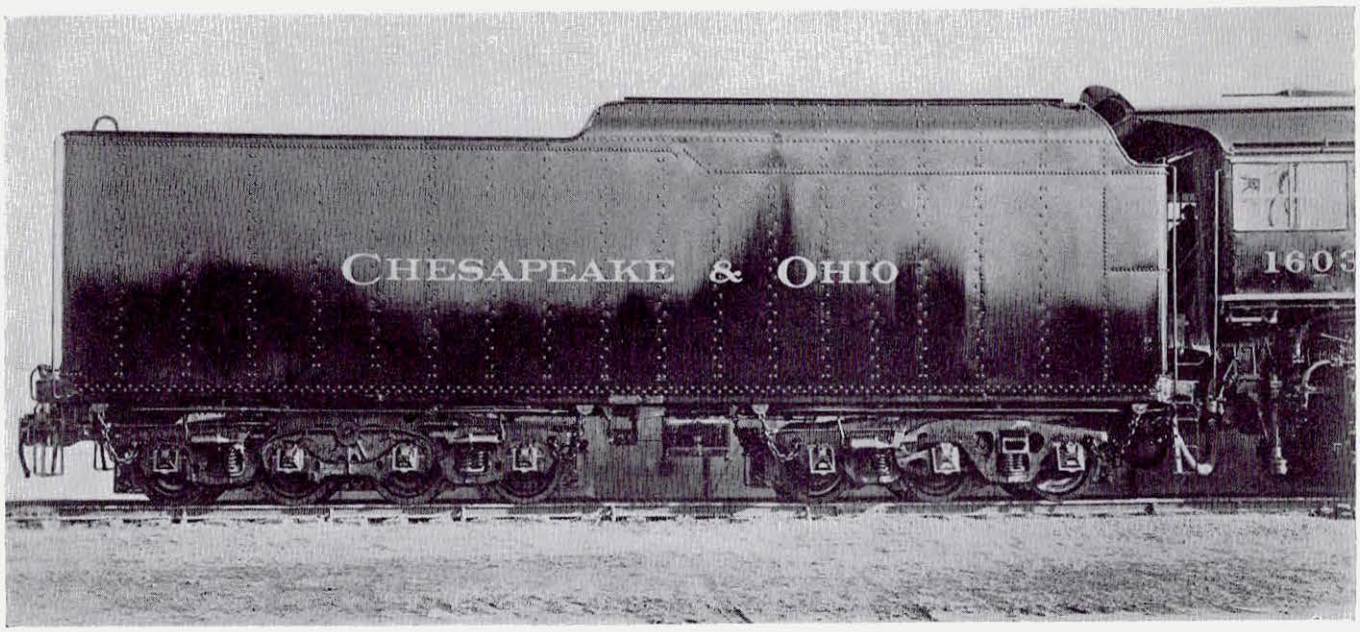
SPECIFY BARCO PRODUCTS

BARCO MANUFACTURING COMPANY

1800 W. Winnemac Ave. NOT INCORPORATED Chicago, Illinois

In Canada THE HOLDEN COMPANY, LTD.

Montreal — Moncton — Toronto — Winnipeg — Vancouver



Tenders of the new 2-6-6-6 articulated locomotives built by the Lima Locomotive Works for the Chesapeake & Ohio Railroad are equipped with National Flexo journal box lids.

The National Flexo Journal Box Lid is a center bearing lid designed to maintain good closing pressure under conditions beyond the range of ordinary lids.

A large diameter coiled spring exerts adequate pressure at the center of the lid to hold it tight against the entire face of the box and assure a dust proof contact between the lid and face of box.

It meets all A. A. R. requirements.

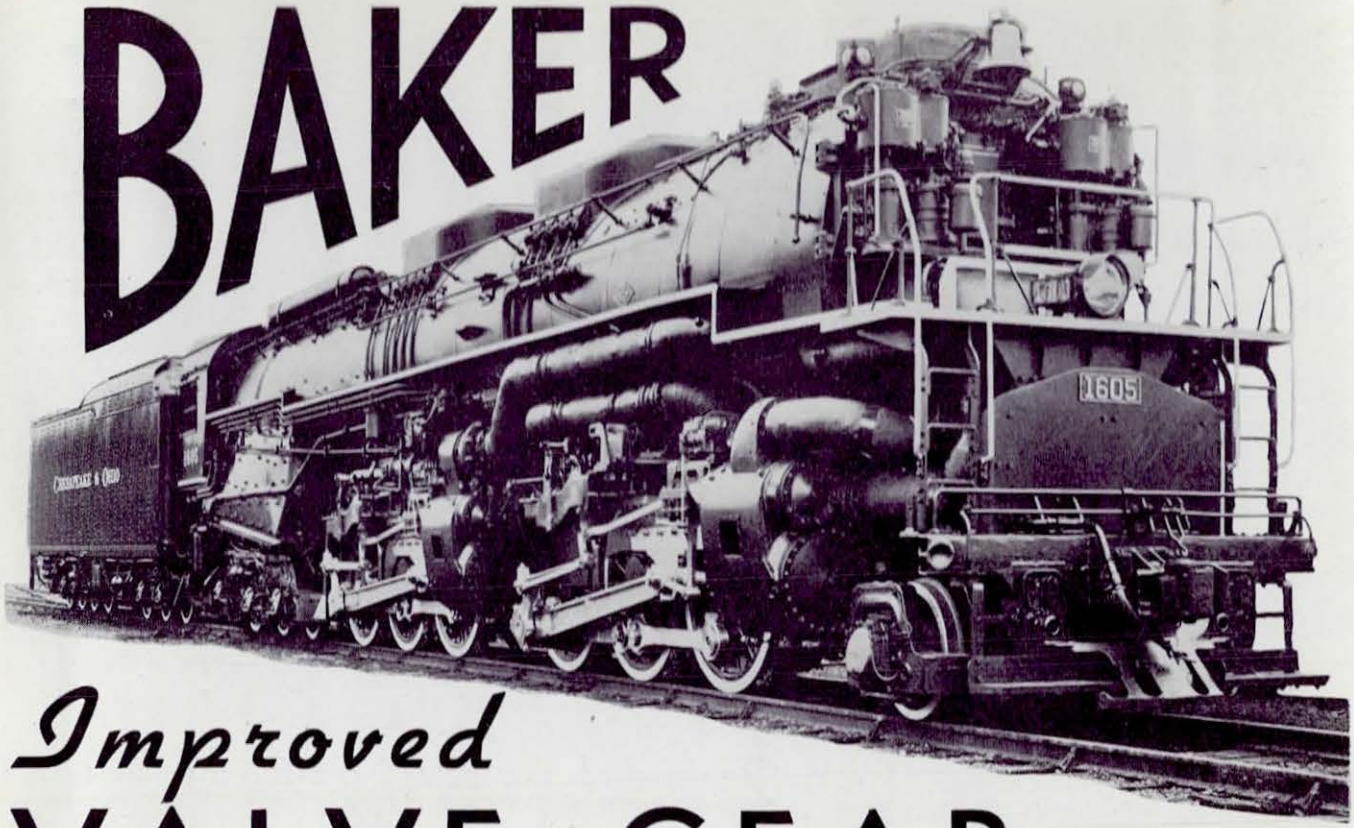
Write for Circular No. 5338

NATIONAL MALLEABLE AND STEEL CASTINGS CO.

General Offices: CLEVELAND, OHIO

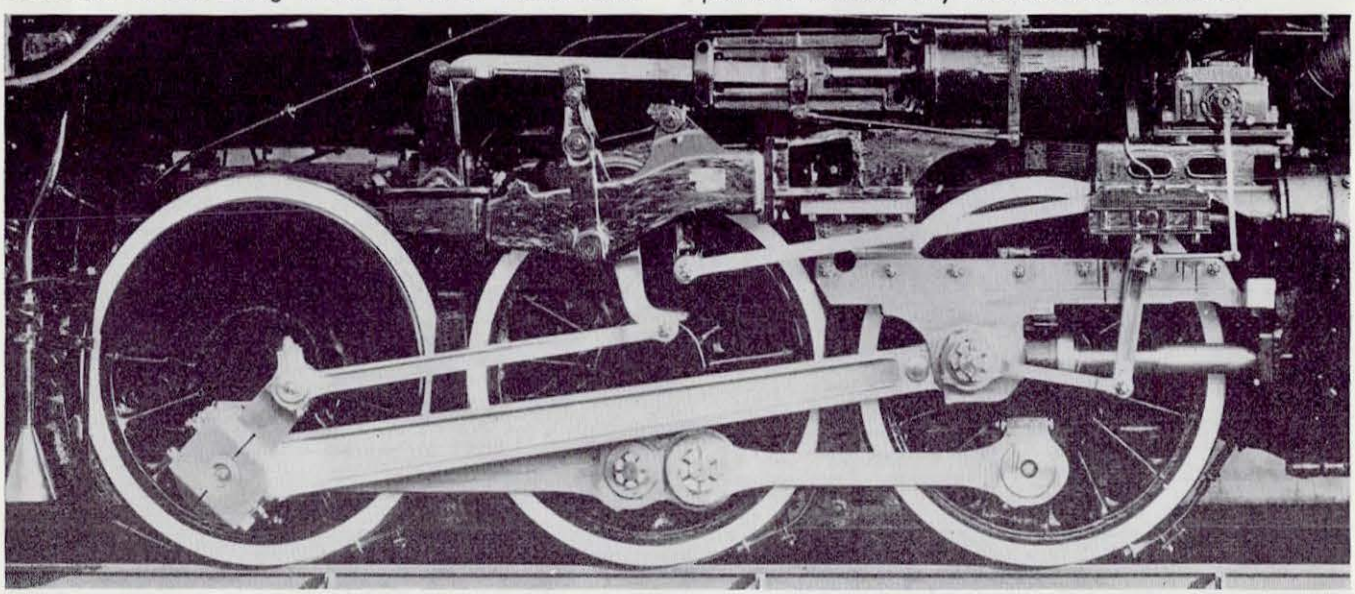
Sales Offices: New York, Philadelphia, Chicago, St. Louis, San Francisco.
Works: Cleveland, Chicago, Indianapolis, Sharon, Pa., Melrose Park, Ill.

BAKER



Improved VALVE GEAR

APPLICATION of the New Improved BAKER Valve Gear to the 20 new 2-6-6-6 type locomotives now being delivered to the Chesapeake and Ohio Railroad is significant in many ways. In the first place these locomotives are designed for exceptionally heavy duty service in the Allegheny Mountains. Selection of the Long Travel BAKER Valve Gear was based on rigid specifications for maximum efficiency, fuel economy and economical operation. All of the moving parts in the BAKER Valve Gears on these locomotives are provided with McGILL Multirol Needle Bearings to insure economies in lubrication and perfect alignment for maximum periods without any maintenance attention.



THE PILLIOD COMPANY

30 Church St., New York, N. Y. Factory—Swanton, Ohio **310 S. Michigan Ave., Chicago, Ill.**

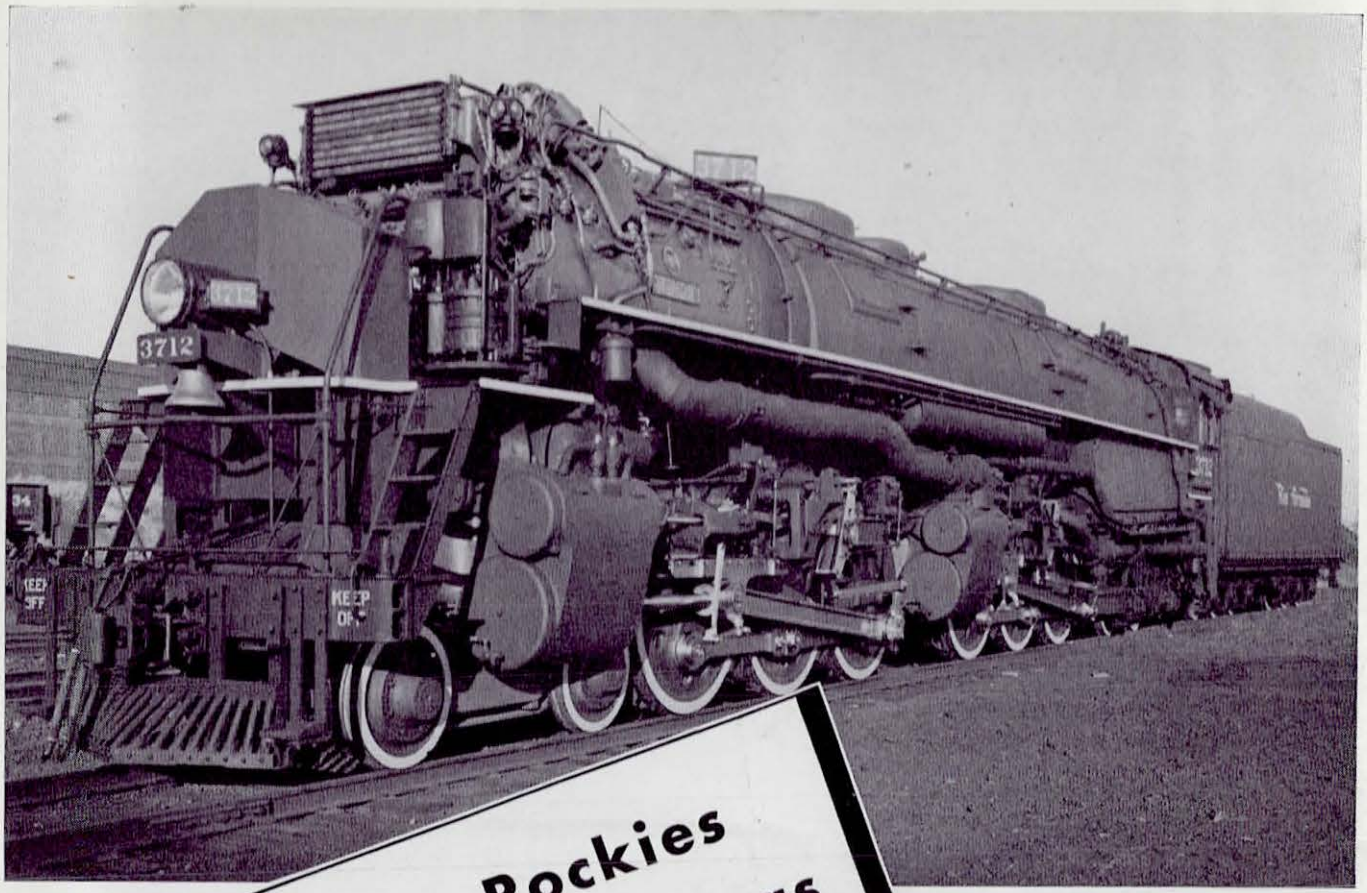
STANDARD STOKERS

KEEP 'EM ROLLING AT TOP SPEED

10 NEW 2-6-6-6 Allegheny Type articulated locomotives are hauling heavy trains over the Allegheny Mountains on the Chesapeake & Ohio Railroad.

10 MORE are on order for the Chesapeake & Ohio Railroad.

ALL 20 . . . Equipped with Standard Stokers for outstanding ★ *Quality* ★ *Performance* ★ *Dependability* ★ *Service*



Through The Rockies ...on SKF Bearings

The War finds the Denver & Rio Grande Railroad *prepared* to handle today's heavy freight and passenger business over the Continental Divide.

Since 1927, this railroad has purchased three lots of SKF-equipped locomotives from Baldwin — all *consecutive* orders proving dependable and satisfactory bearing performance.

And whether these locomotives pass through the Moffat Tunnel or over the Royal Gorge route and then over the Rockies, SKF Bearings are meeting 1942's exacting demands in this rugged country . . . are helping to make equipment available for constant service. SKF Industries, Inc., Front St. & Erie Ave., Phila., Pa.

4995

SKF

BALL AND ROLLER BEARINGS

MODERN LOCOMOTIVES REQUIRE TUBES AND FLUES EQUAL TO MODERN DEMANDS

One of the new Chesapeake & Ohio locomotives built by Lima Locomotive Works in which Globe tubes and flues are used.

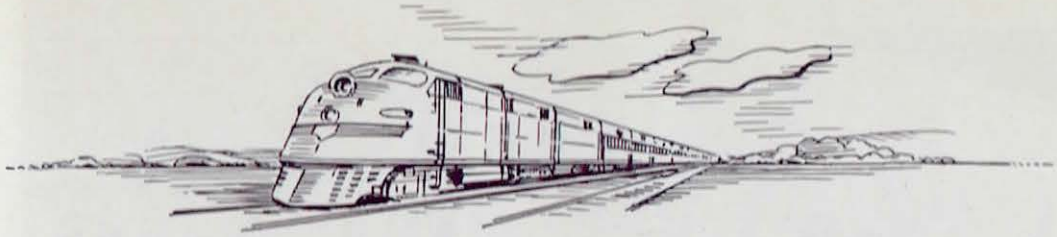
GLOBE STEEL TUBES CO., Milwaukee, Wisconsin

GLOBE STEEL TUBES

- BOILER TUBES
- CONDENSER AND HEAT EXCHANGER TUBES
- MECHANICAL TUBING
- STAINLESS TUBES

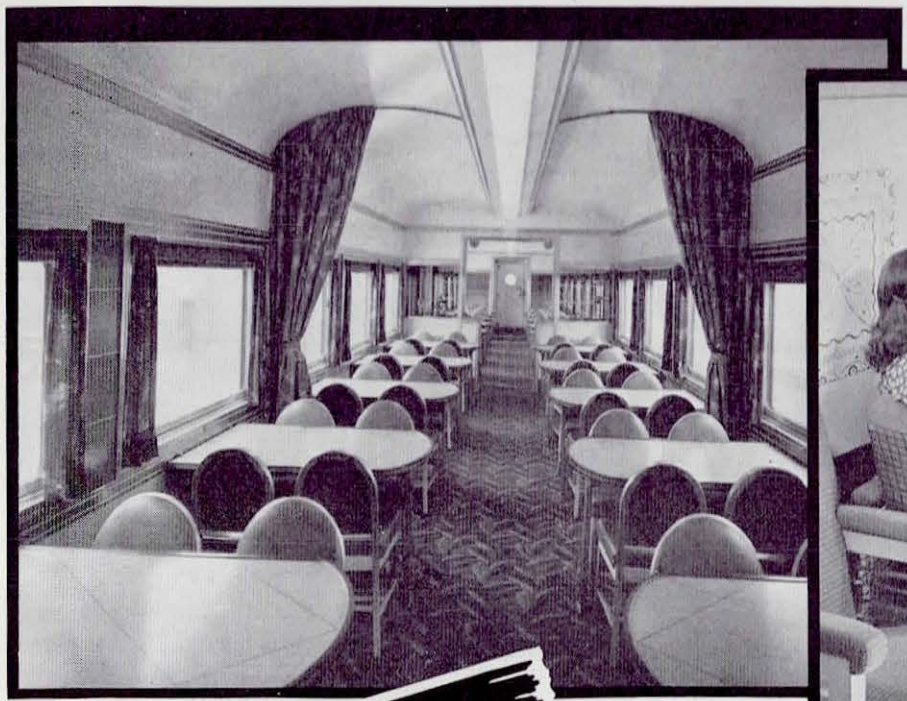
GLOBE TUBES

5001



AS MODERN AS THE DIESEL LOCOMOTIVE—

FORMICA TABLE TOPS!



CIGARETTE AND STAIN PROOF!

SANITARY— AND CLEAN!

THE photographs show Formica used as dining car table tops and in lounge cars. Formica has also been used in many modern trains for window stools, shelving in toilet rooms and for similar uses. All of the leading car builders have made use of the material.

Most of the streamliners that have gone on the rails in recent years have made use of Formica — a modern plastic material, and the finest product of American industry for surfacing areas that are subject to unusual wear and tear.

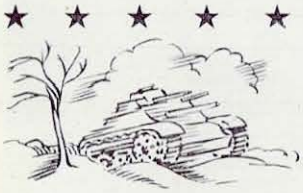
Formica is non-porous and chemically inert and therefore highly resistant to spotting by any ordinary liquid; it is available in a cigarette-proof grade which resists burning. It is flexible and not brittle, and so free from checking or cracking under a sharp blow.

Formica is available in more than 70 attractive patterns and colors. Veneers of genuine woods are embedded in the plastic sheets to provide genuine wood grains without robbing the sheet of any of its valuable plastic qualities.

Let us send color charts and complete information.

• *The Formica Insulation Co., 4641 Spring Grove Ave., Cincinnati, Ohio*

★ ★ ★ ★ ★ ★ ★ **FORMICA** ★ ★ ★ ★ ★ ★ ★



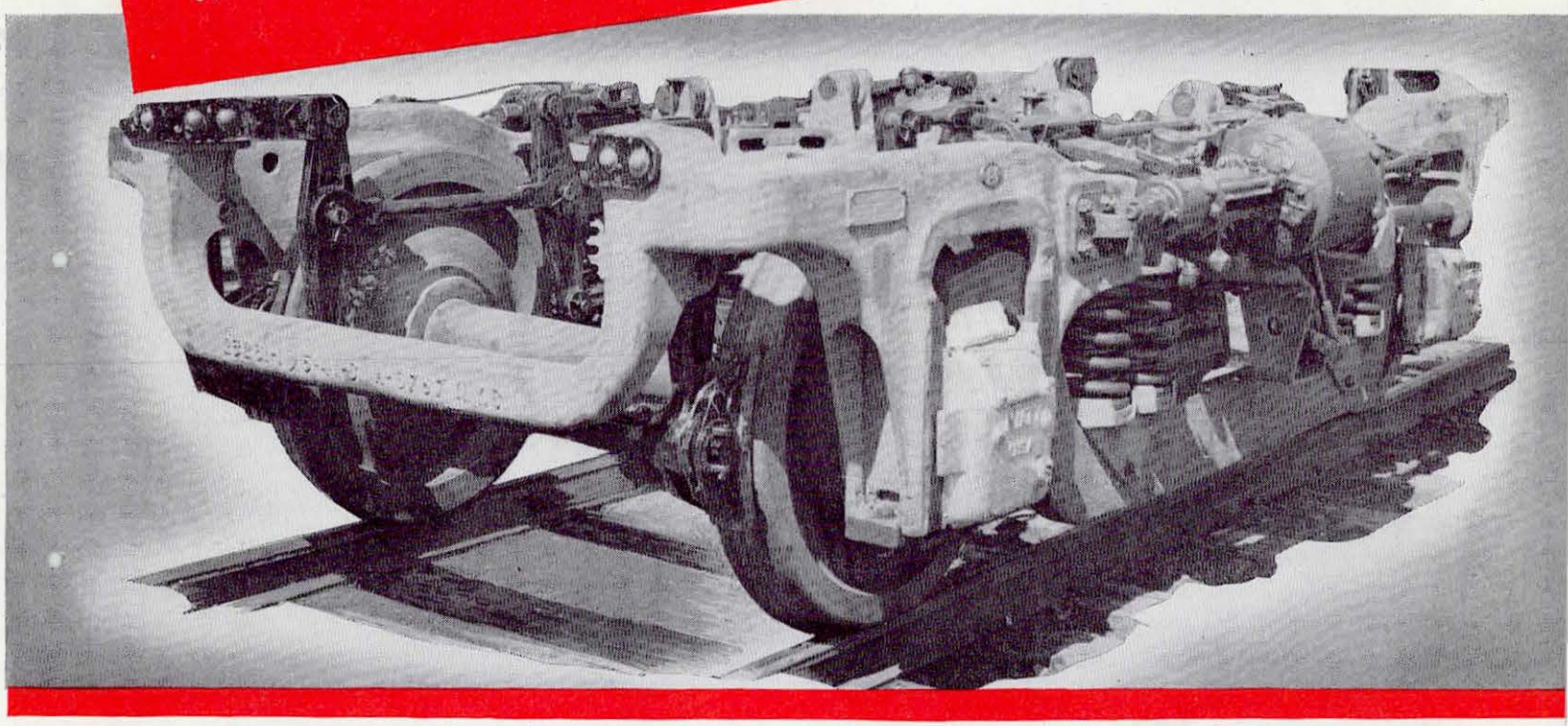
Formica in DEFENSE

Formica is used for control pulleys, machined parts and electrical insulating purposes in airplanes, and insulation and other uses in tanks. Three-fourths of Formica capacity is now engaged in the defense effort.

111 NEW CARS

for NEW YORK CENTRAL SYSTEM

Equipped with SIMPLEX UNIT CYLINDER CLASP BRAKES



Simplex Clasp Brakes contribute greatly to modern high speed train operation. They make it possible to stop these trains quickly, quietly and *safely.*

New York Central specified Simplex Unit Cylinder Clasp Brakes on 111 new coaches. These cars were built by the following car builders:

- **American Car & Foundry Co.**
- **E. G. Budd Mfg. Co.**
- **Pressed Steel Car Co.**
- **Pullman-Standard Car Mfg. Co.**

The new EMPIRE STATE EXPRESS has 16 cars equipped with Simplex Clasp Brakes.

Simplex Unit Cylinder Clasp Brakes are applied to the trucks of the leading streamliners.

AMERICAN STEEL FOUNDRIES

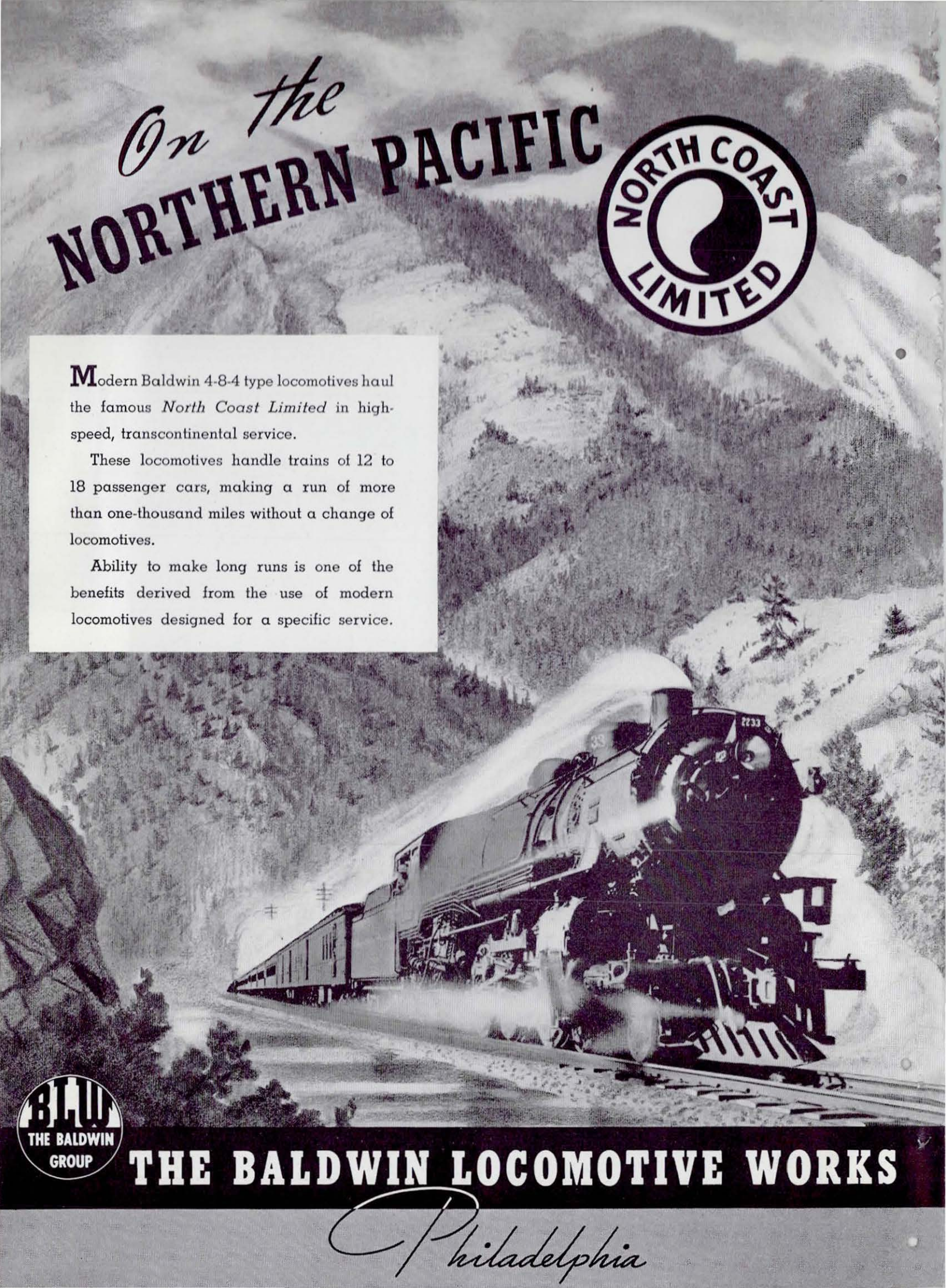
On the NORTHERN PACIFIC

NORTH COAST LIMITED

Modern Baldwin 4-8-4 type locomotives haul the famous *North Coast Limited* in high-speed, transcontinental service.

These locomotives handle trains of 12 to 18 passenger cars, making a run of more than one-thousand miles without a change of locomotives.

Ability to make long runs is one of the benefits derived from the use of modern locomotives designed for a specific service.



BLW
THE BALDWIN GROUP

THE BALDWIN LOCOMOTIVE WORKS

Philadelphia

On the New C & O Locomotives

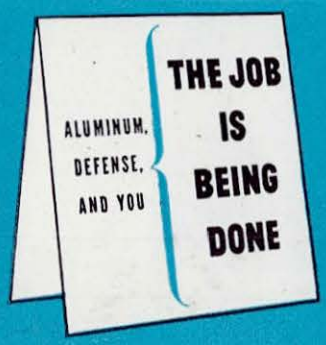
TENNESSEE Charcoal Bloom Iron was used to make the flexible staybolts and boiler brace bolts in the new Allegheny type locomotives recently built by Lima Locomotive Works Chesapeake & Ohio Railroad.

Hammered Laurel Iron was used in the draw bars, safety bars and pins on these locomotives.

These two famous irons were chosen for use in these powerful units because of their established records for outstanding quality and absolute reliability.

EWALD IRON COMPANY
LOUISVILLE
CHICAGO NEW YORK ST. PAUL

WHAT 5¢ CAN MEAN TO YOUR FUTURE



★

HOW MUCH ALUMINUM we are making now is a censored secret. We are determined it shall be sufficient to the need.

HOW MUCH WILL BE AVAILABLE, after the war, is idle talk now.

THE PRICE OF ALUMINUM is the thing that's important. It is important to the war, because our reduction of the price of ingot from 20c to 15c is saving the Government many millions of dollars a year.

THAT FIVE CENTS doesn't make aluminum one whit more useful for war purposes—only more patriotic.

BUT IT DOES MAKE aluminum terribly important to the peace. Real peace means jobs for all. Jobs-for-all come into being only when people *want to* buy and *can* buy: Which means new things, better things, at a price.

IMAGINEERING is the word we have coined to describe the thinking which is used to get those new things ready. Imagineering is letting your imagination soar and then engineering it down to earth. Imagineering needs tools as well as brains.

THAT FIVE CENTS we've lopped off the price of aluminum, so far, has more potentialities of creating new things and better things, at a price, than any single thing we know of.

THAT'S WHERE YOU COME IN. You are the man *who*. You are the man America is counting on to make the jobs Americans are going to need. You are the man who is going to do the *Imagineering*, in your specialty, that is going to win the place for yourself, your employees, your associates.

YOU ARE GOING TO DO IT, and we hope you are going to let Alcoa help. We can, and we want to.

Aluminum Company of America, 2178 Gulf Building, Pittsburgh, Pennsylvania.

ALCOA ALUMINUM

On the New C & O Locomotives

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LOUISVILLE
CHICAGO NEW YORK ST. PAUL

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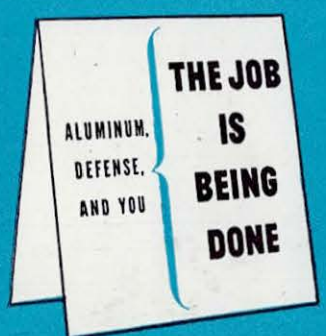

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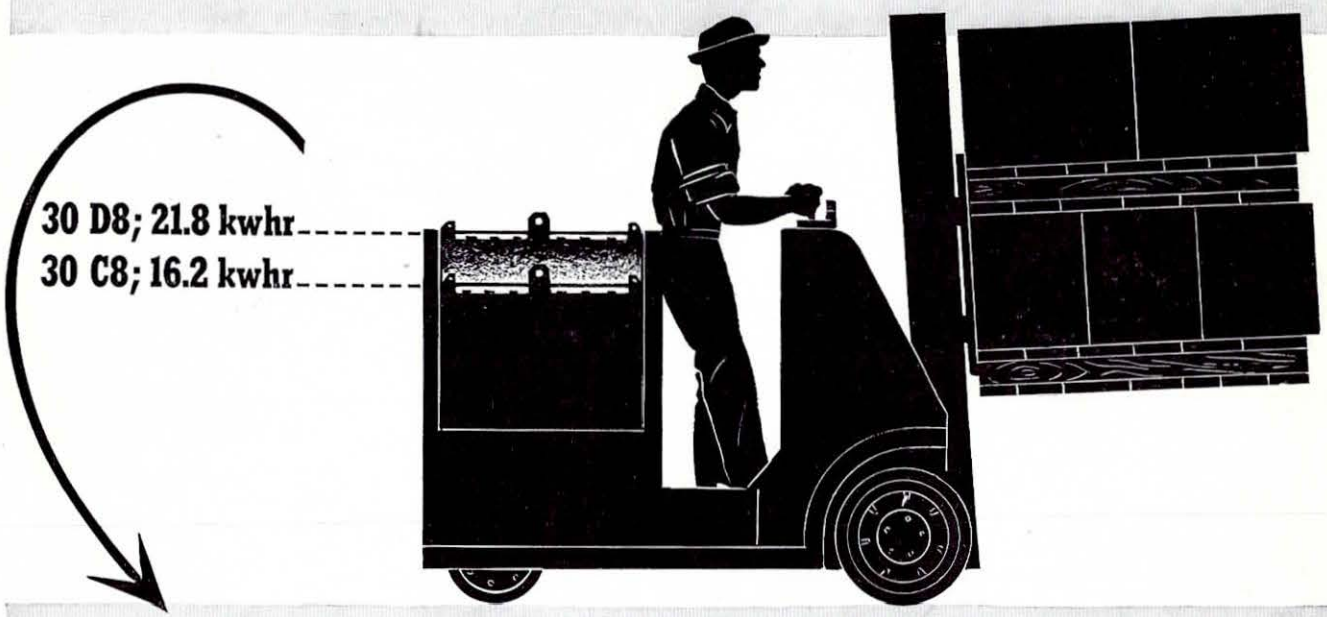
YOU ARE GOING TO DO IT, and we hope you are going to let Alcoa help. We can, and we want to.

Aluminum Company of America, 2178 Gulf Building, Pittsburgh, Pennsylvania.

ALCOA ALUMINUM

How to get more work

FROM YOUR BATTERY INDUSTRIAL TRUCKS



THIS SKETCH illustrates how a center-control fork truck can be powered for various daily operating requirements. If it is now equipped with 30 C8s and does 9 hours of continuous work daily, it can do 12 hours with 1 set of 30 D8; 18 hours with 2 sets of 30 C8; 24 hours with 3 sets of 30 C8 or 2 sets of 30 D8. Under certain conditions still other combinations are practical.

NEW industrial trucks now going into service for handling freight, stores and other railroad work are usually being equipped with adequate battery capacity for 24-hour-a-day operation.

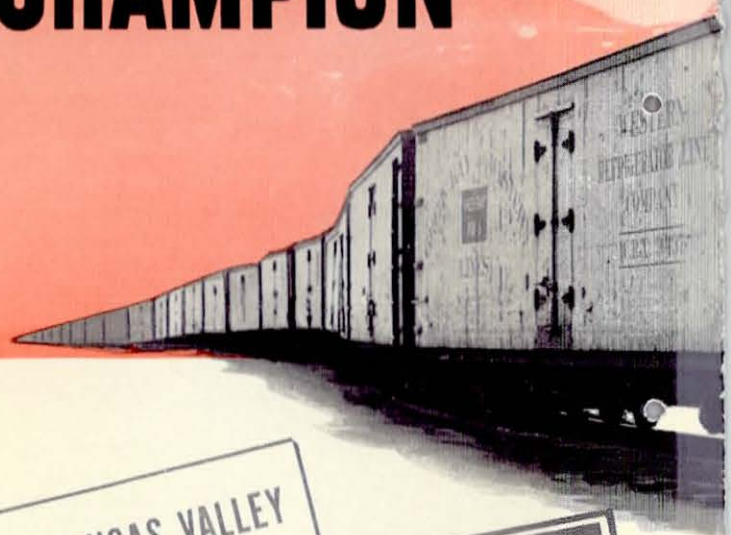
But the demand for new trucks exceeds the supply. Besides, many existing trucks can be rebatteried so that they, too, can provide continuous service around the clock. The cost will be less.

By having your trucks adequately batteried, you will not only obtain better performance and more work; you will also cut your costs per ton-foot of handling work done. Edison Storage Battery Division of Thomas A. Edison, Inc., West Orange, New Jersey.

Edison

STEEL Alkaline BATTERIES

The West Likes the LIGHTWEIGHT CHAMPION



GREAT NORTHERN RAILWAY

CHICAGO MILWAUKEE ST. PAUL AND PACIFIC

RIO GRANDE — ROYAL GORGE — MOFFAT TUNNEL — SCENIC LINE OF THE WORLD

ARKANSAS VALLEY RAILWAY, INC.

Burlington Route

25 SAVE TIME, SPEED WORK FOR 10 WESTERN ROADS

MISSOURI & ILLINOIS BRIDGE & BELT R.R

MISSOURI PACIFIC LINES

SAINT PAUL UNION DEPOT COMPANY

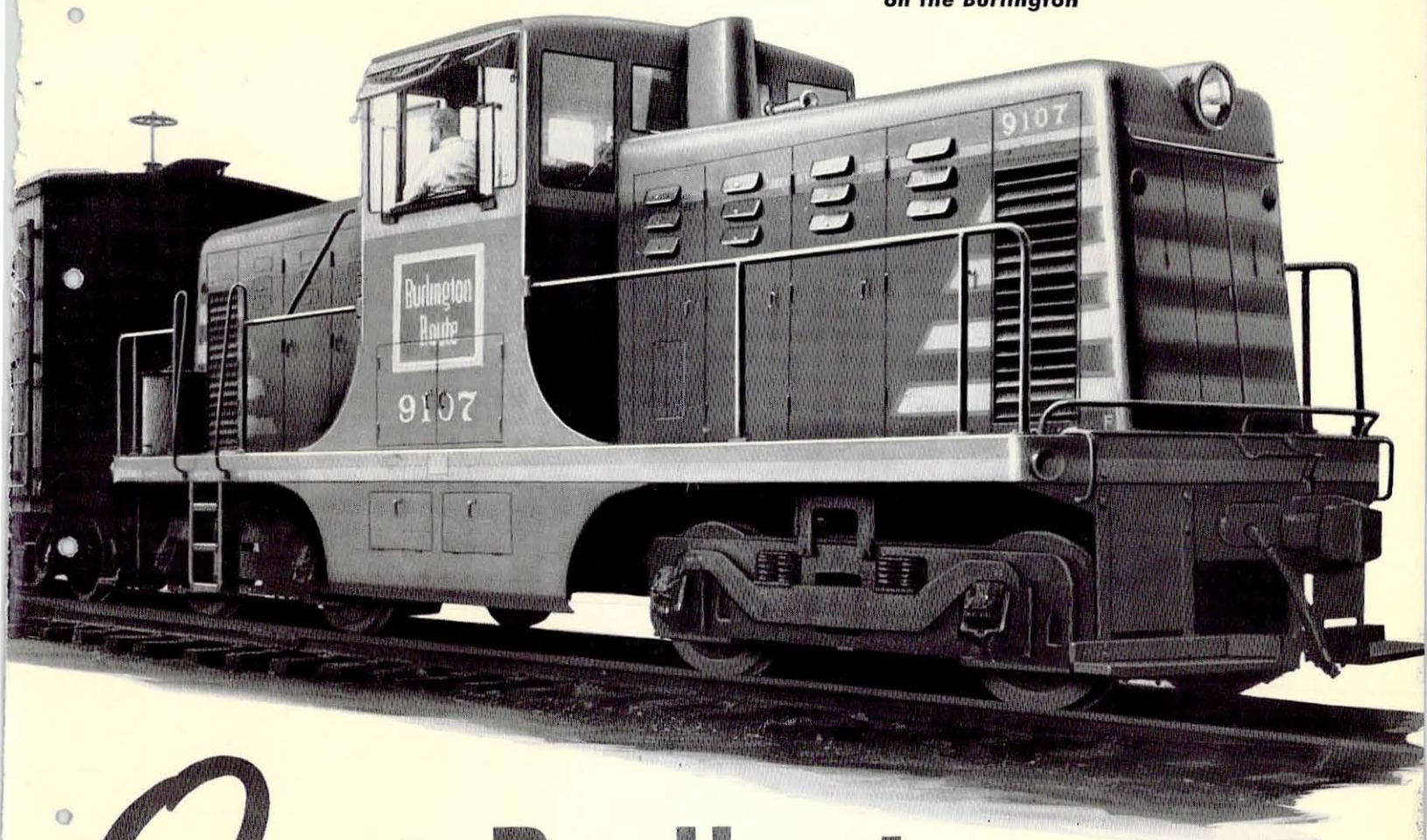
SOUTHERN PACIFIC LINES

$00 SINE

FOR HEAVIER SERVICE—
Switch to Alco-G.E. Switchers

E

General Electric and its employees are proud of the Navy award of Excellence made to its Erie Works for the manufacture of naval ordnance.



One of five G-E 44-ton diesel-electrics in switching service on the Burlington

On the Burlington

1 unit won a place for 4 more

THE first G-E 44-ton diesel-electric for the Burlington went into service at St. Louis in February of last year. Busy 18 hours a day, its superior performance quickly won a place for four similar units—units which have demonstrated the same ability as the first—ability to work fast and for long hours.

There are good reasons why 23 roads have invested in 63 of these diesel-electrics since 1940. Their availability, often running as high as 98 per cent, can be expected to average at least 95 per cent. Utilization can run just as high because, equally adaptable to road or yard service, these 44-tonners can be kept busy doing a complete motive-power job: switching, accumulating trains, and hauling these trains on the road.

Compared with steam operation, they reduce fuel consumption 30 per cent. Often one unit can release two steamers for other service.

But most important today—the features that cut your operating costs also give you more work per hour, better utilization of men and materials, and the flexibility with which to meet changing conditions promptly.

Your G-E representative has complete information on the big job this lightweight locomotive can do for you. *General Electric, Schenectady, N. Y.*

GENERAL ELECTRIC

121-20-9040

THIS COUNTRY WAS BUILT ON FAITH

THE vastness of the production requirements of all-out defense is difficult to visualize from any vantage point which is available to the average man. Wherever it is seen in part its gigantic proportions are apparent but the complete and intricate pattern of such a program is hard to imagine, impossible to see.

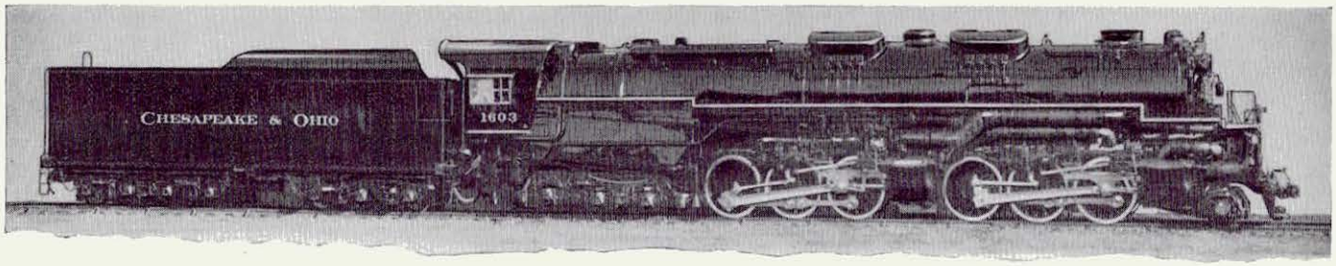
It is Faith—Faith in the vision of the Founding Fathers—Faith in the sure intent of a great people—Faith in the inevitable outcome of a concerted effort by a United Nation which must for the present take the place of exact Knowledge. To this Faith upon which our Country was built, our thousands of able, experienced workers, our acres of production facilities are dedicated. So shall they be by common consent until our objectives are fully accomplished and the fruits of their attainment brought home to the people whose tireless effort shall make them possible.

GENERAL MACHINERY CORPORATION

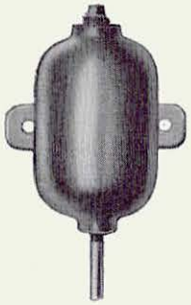
HAMILTON, OHIO

GENERAL MACHINERY ORDNANCE CORPORATION

THE NILES TOOL WORKS CO. • THE HOOVEN, OWENS, RENTSCHLER CO.



New C&O Fleet of Mallet Locomotives Equipped with Viloco and Okadee Specialties

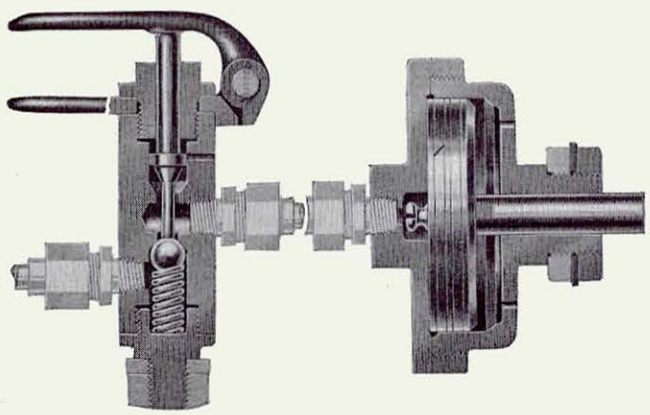


VILOCO SANDER
with Automatic Clean-out Feature

These locomotives are equipped with Sander Traps having clean-out feature. A new Automatic Timing Valve in the clean-out air supply line automatically cuts off the flow of clean-out air after a predetermined interval.

Eliminates hazard of setting brakes during sanding operation. Conserves air pressure, reduces compressor operation and saves sand waste.

This new Timing Valve can be combined with any type of Sander installation having clean-out feature.



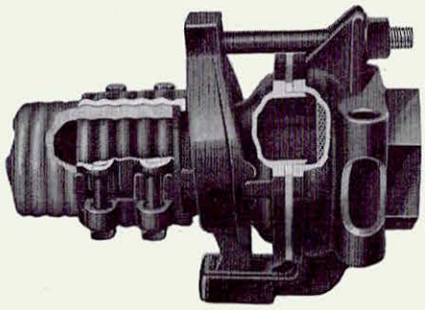
VILOCO
PNEUMATIC WHISTLE OPERATOR
for All Types Locomotive Whistles

Operating valve located conveniently in the cab makes it easier for enginemen to sound warnings and signals. The VILOCO Operator is especially desirable for whistles located out near the front end of the locomotive because it eliminates all the complicated rigging ordinarily needed for manual operation. However, *any type* of whistle, regardless of location, can be equipped with the VILOCO operating cylinder.

Write for Descriptive Bulletins and Prices

Viloco Railway Equipment Co.

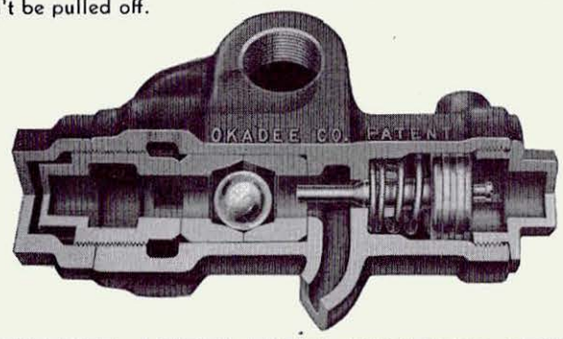
332 South Michigan Ave., Chicago, Illinois



OKADEE TENDER HOSE COUPLER
Uncoupled or Recoupled in One Minute

A real time saver. Simply loosen the ¾" nut and throw the yoke bolt clear. It can be recoupled just as quickly.

Large over-size screen assures a steady, unrestricted, straight-through flow of water through feed pipe. The screen can be cleaned easily and quickly. Special clamping system holds hose securely — it can't be pulled off.



OKADEE AUTOMATIC CYLINDER COCK

When engine is standing, the ball rests midway between the two seats and allows all condensation to pass. When throttle is opened, the ball moves forward and closes the outlet port. While drifting, the ball moves against the rear seat, and thus prevents suction of cold air and dirt into the cylinders. Air is used to open cock while it is under pressure.

OKADEE FRONT END HINGE

Provides a quick, economical means for opening smoke box front. Placing the compressors on the front end is only practical when Okadee Hinges are used. Adaptable to old as well as new locomotives. Front end repairs can be made without complete removal of smoke-box front.

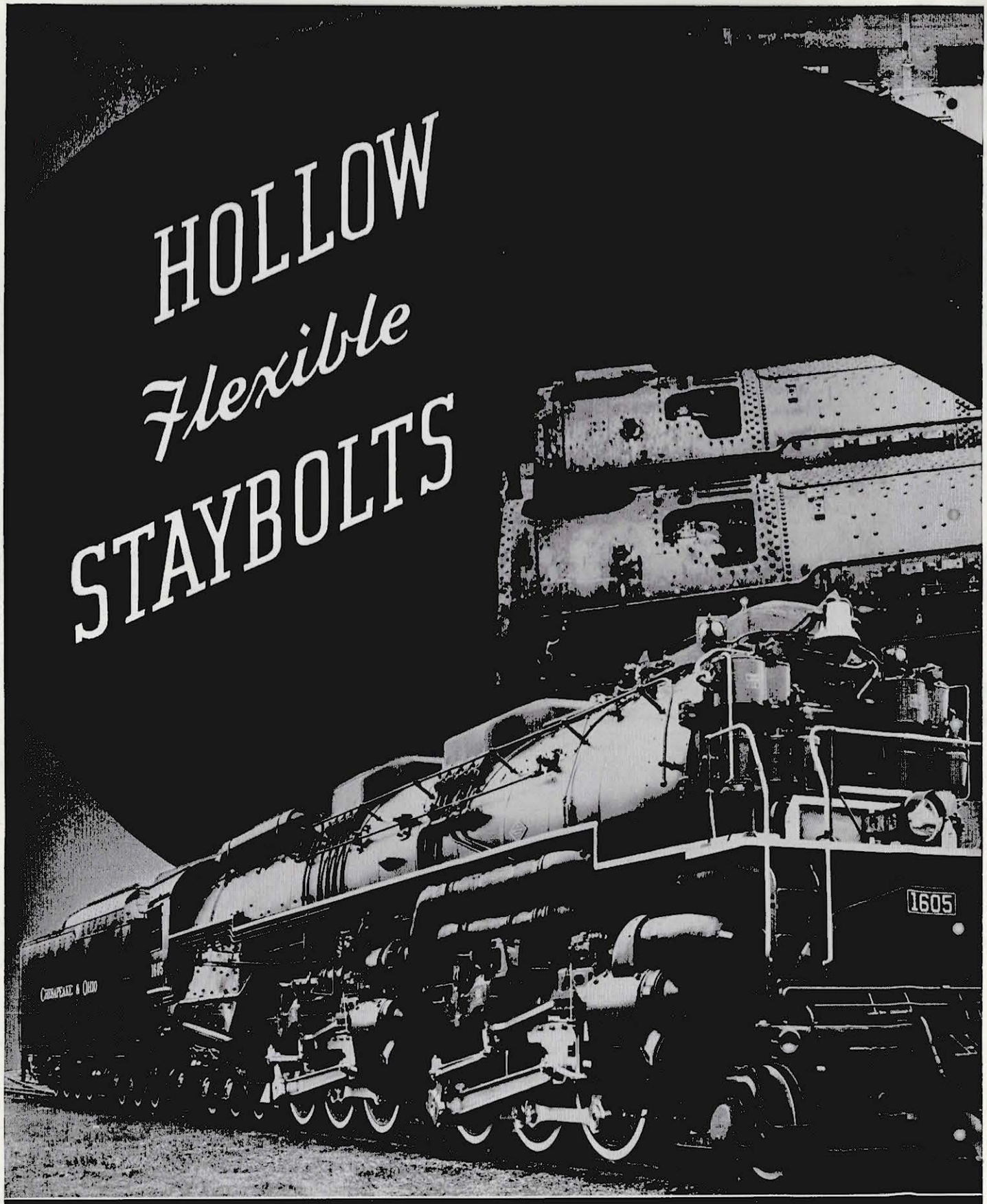
OKADEE AUTOMATIC DRAIN VALVE

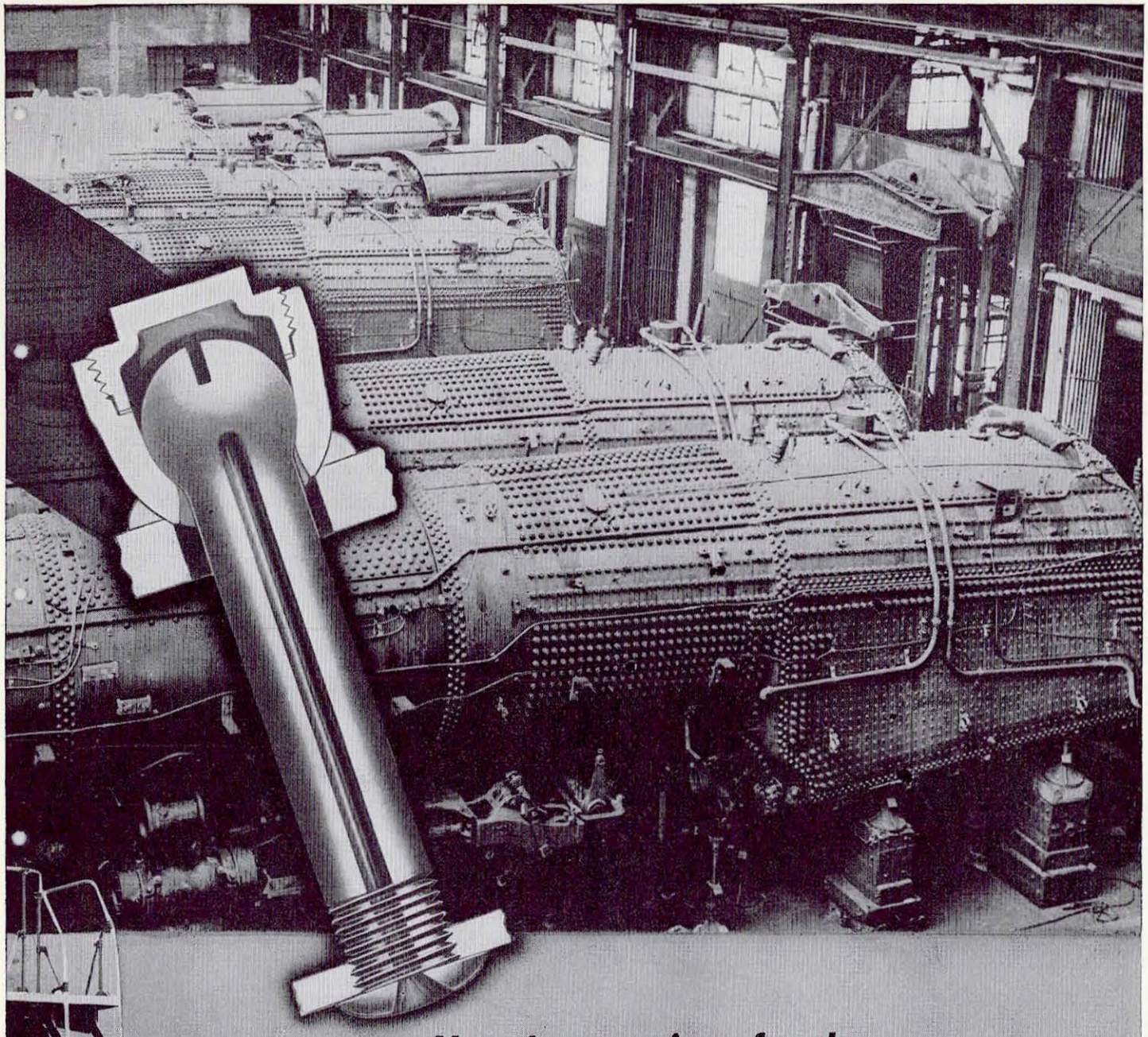
Wherever pressure is intermittently applied and released, the draining of condensation promotes more efficient operating performance. Okadee Drain Valves are automatic in operation, closing when pressure is applied and opening when pressure is released.

Send for Descriptive Bulletins and Prices

THE OKADEE COMPANY

332 South Michigan Ave. Chicago, Illinois


HOLLOW
Flexible
STAYBOLTS
1605
FLANNERY BOLT



New Locomotives for the

CHESAPEAKE & OHIO RAILROAD

are all equipped with

HOLLOW COPPER PLATED STAYBOLTS

to provide greater

Safety — Economy & Availability

COMPANY **BRIDGEVILLE, PENNSYLVANIA**

NEW CHESAPEAKE & OHIO LOCOMOTIVES GO ON TIMKEN BEARINGS

All ten of the powerful type 2-6-6-6 articulated freight locomotives built by Lima Locomotive Works for the Chesapeake & Ohio Railroad are equipped with Timken Roller Bearings on all engine trucks and driving axles. Ten more now on order will be similarly equipped.

Eight passenger locomotives, type 4-6-4, built for the C. & O. by Baldwin and placed in service a short time ago, have Timken Bearings on all axles — engine trucks, driving axles, trailer trucks and tender trucks.

In addition to new locomotives going on Timken Bearings, an encouraging step-up in motive power is being accomplished on many railroads by modernizing existing equipment with Timken Bearings. Hundreds of the country's older locomotives thus have had their performance standards raised to a point comparable with those of new engines. This is a vitally important consideration in the present transportation emergency.

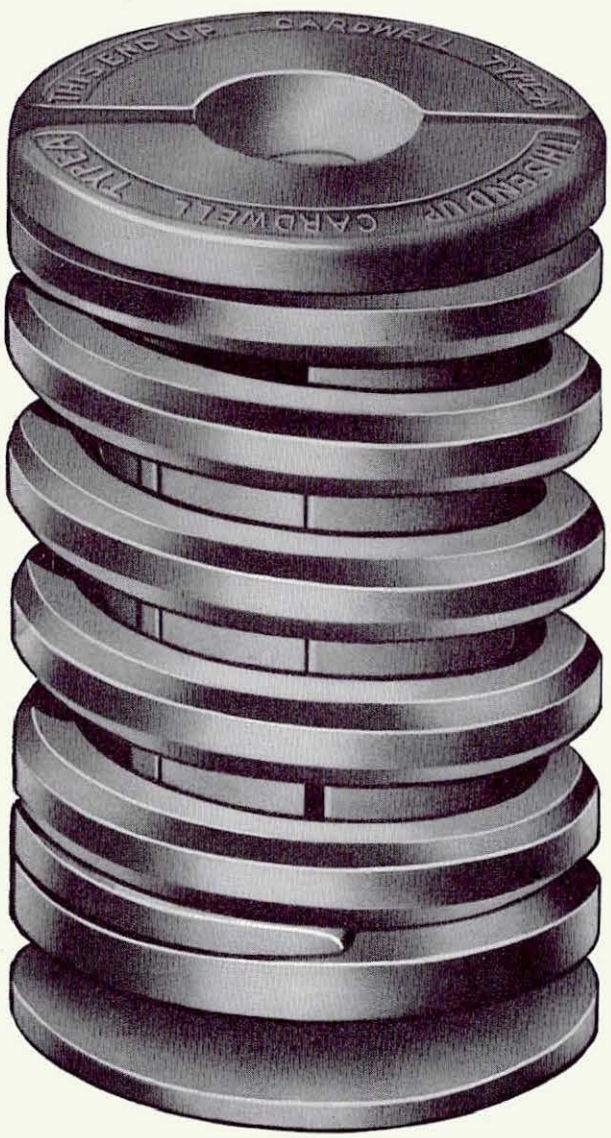
Timken Bearings are helping American railroads to keep rolling for Victory. After Victory they'll help them to still further improve their position in the country's transportation picture.

THE TIMKEN ROLLER BEARING CO., CANTON, O.

Manufacturers of Timken Tapered Roller Bearings for automobiles, motor trucks, railroad cars and locomotives and all kinds of industrial machinery; Timken Alloy Steels and Carbon and Alloy Seamless Tubing; and Timken Rock Bits.

TIMKEN
TRADE-MARK REG. U. S. PAT. OFF.
TAPERED ROLLER BEARINGS

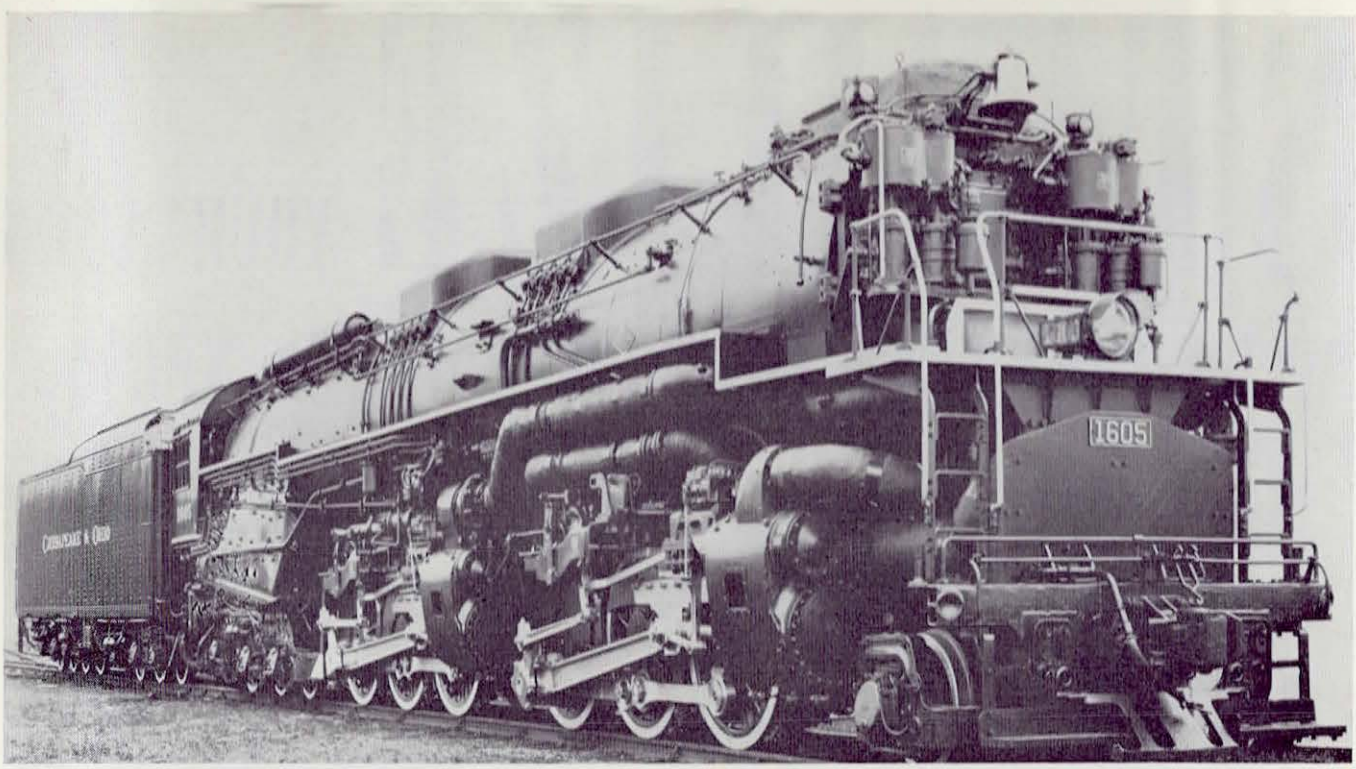
STABILIZE YOUR CARS WITH CARDWELL FRICTION BOLSTER SPRINGS

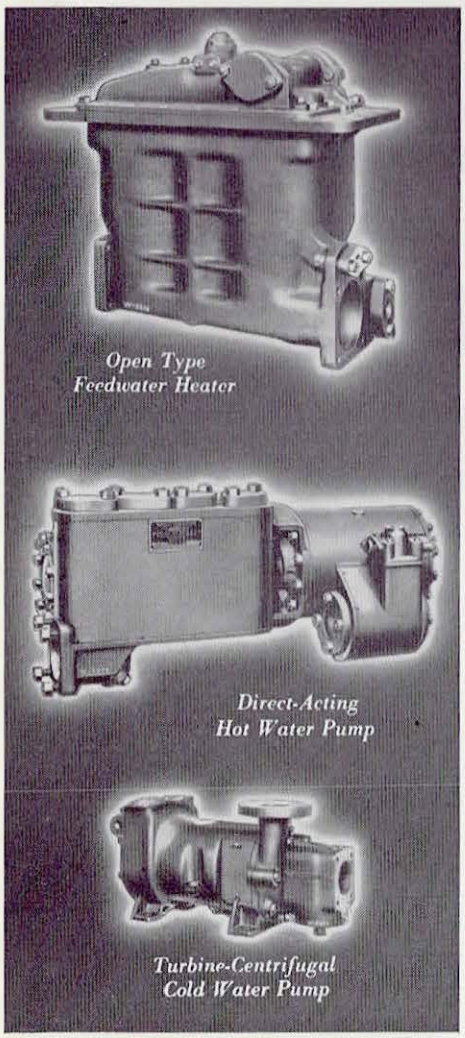


CARDWELL FRICTION BOLSTER SPRING TYPE A

Cardwell Friction Bolster Springs are ruggedly designed and built to withstand the continuous movement and shocks to which bolster springs are subjected and to minimize the damage otherwise caused to cars and lading by excessive bouncing, rocking and lurching.

CARDWELL WESTINGHOUSE CO., CHICAGO
CANADIAN CARDWELL CO., LTD., MONTREAL





10 in service...10 more on order ...and all with

WORTHINGTON OPEN TYPE FEEDWATER HEATERS

The Chesapeake & Ohio selected the Worthington Open Type Locomotive Feedwater Heater, for application to its twenty new 2-6-6-6 articulated locomotives, because of the reliable, efficient and economical performance of this Open Type heater on 86 existing main line engines.

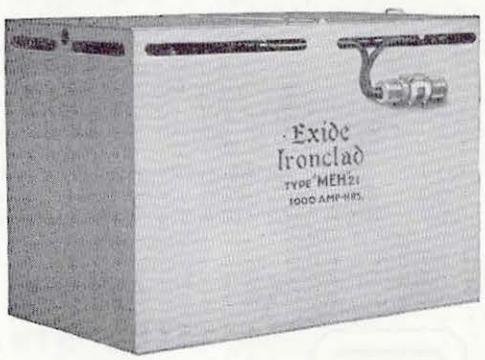
On this power . . . as on any locomotive, new or old . . . Worthington Heaters will increase boiler capacity, save substantial amounts of fuel and water, reduce scale accumulation, and speed up schedules. Figures, prepared by American railroads, show an annual return of from 40% to 60% on the investment.

LH 2-1

WORTHINGTON PUMP AND MACHINERY CORPORATION
General Offices: HARRISON, NEW JERSEY • *Offices in Principal Cities*

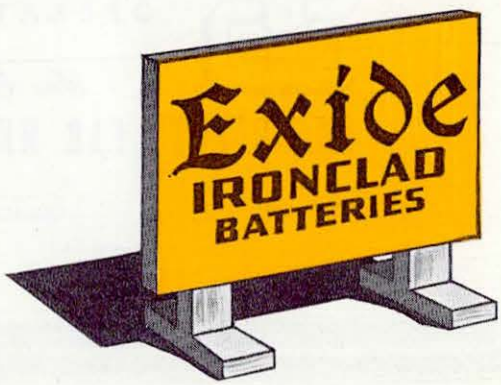
WORTHINGTON

... and Exide steps up the pace

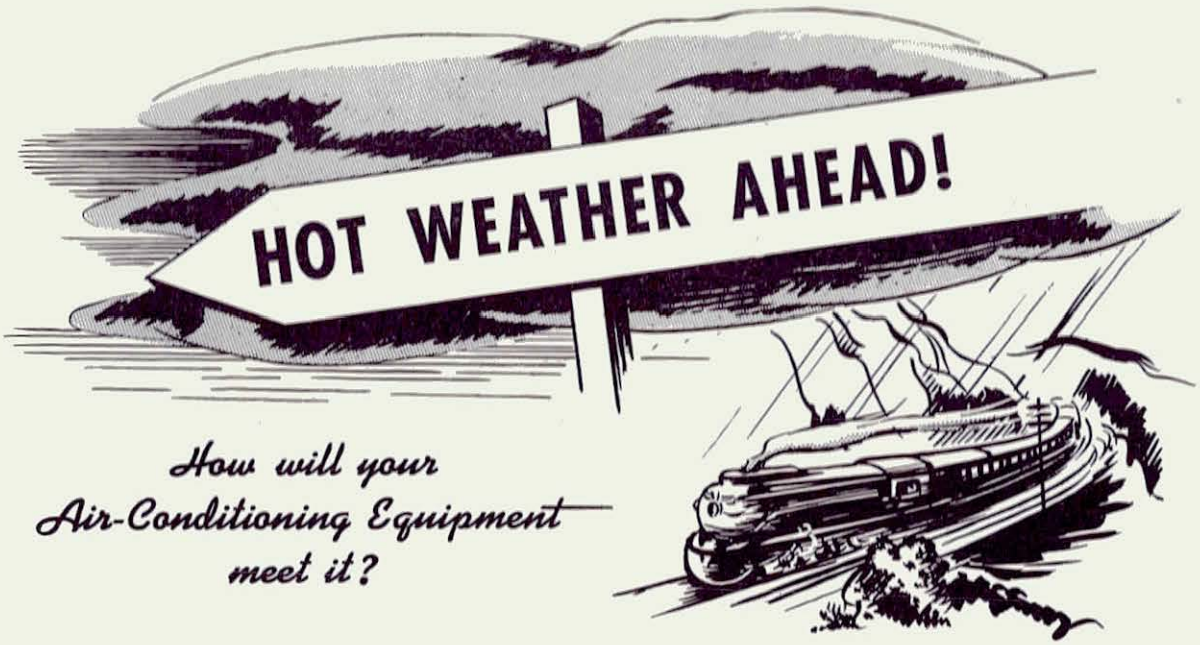


No *safe* degree of speed can be too great when a nation arms for total war. Every railroad in America must speed deliveries at maximum pace!

Exide-Ironclad Batteries do their part by powering electrical industrial trucks at hundreds of loading and unloading points of railways . . . and in warehouses Exide Batteries deliver their surging power at high voltage . . . for greater speeds. Their dependability and low cost operation help *Keep America Rolling.*



THE ELECTRIC STORAGE BATTERY CO., Philadelphia
The World's Largest Manufacturers of Storage Batteries for Every Purpose
Exide Batteries of Canada, Limited, Toronto



How will your Air-Conditioning Equipment meet it?

Will the cooling capacity decrease just when it is most needed and will the power input increase with the additional load and cause the efficiency to do a nose dive?

WHEN YOUR CARS ARE EQUIPPED WITH THE

CARRIER-SAFETY

STEAM EJECTOR SYSTEM . . . .

the cooling capacity will automatically increase to take care of the extra load. The power input remains constant and the efficiency actually increases.

Hot Weather brings out the best in the Steam Ejector System

OPERATES WITH AIR AND WATER

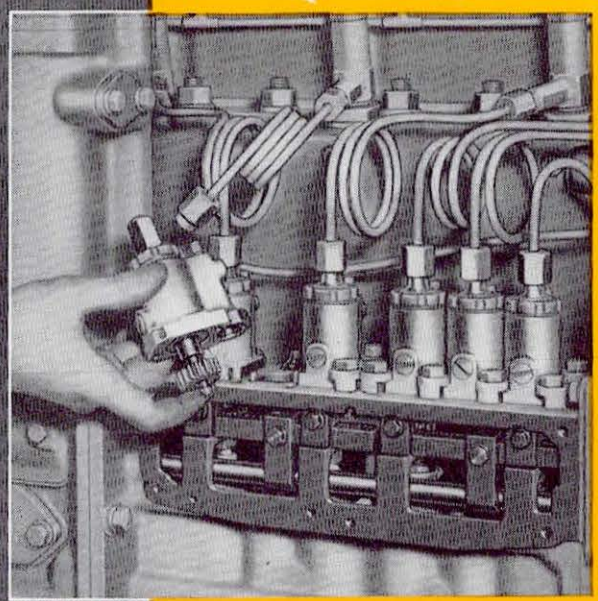
For Economical, Safe Air Conditioning

THE SAFETY CAR HEATING AND LIGHTING COMPANY, INC.

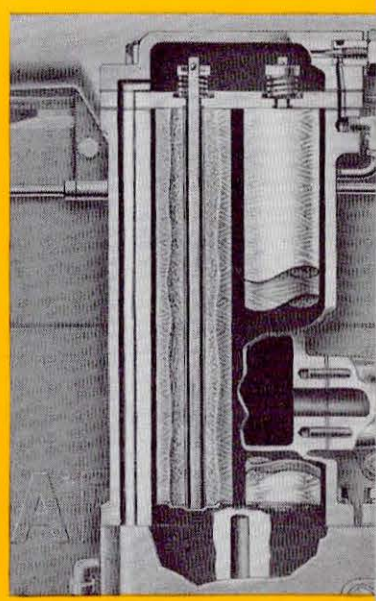
NEW YORK CHICAGO PHILADELPHIA ST. LOUIS
SAN FRANCISCO BOSTON MONTREAL

The "Caterpillar" Diesel Fuel System

...AN OUTSTANDING ACHIEVEMENT IN DIESEL DESIGN



INJECTION PUMP



FUEL FILTER

INJECTION VALVE AND PRE-COMBUSTION CHAMBER

ONE of the great advancements for efficiency, dependability and economy in Diesel power is the "Caterpillar" Diesel fuel system—designed and built by "Caterpillar" for "Caterpillar" Diesel Engines exclusively. And here's why:

- No operating adjustments whatever.
- Pre-combustion chamber of exclusive design which enables burning successfully, with clean exhaust, a wide range of fuels—including low-cost No. 3 domestic burner oil . . . provides efficient burning of fuel at all loads and speeds. (Engine can idle indefinitely without fouling or choking up, then pick up load immediately without faltering.)
- Injection pumps and injection valves are interchangeable and are installed without any timing, balancing or other delicate adjustments.
- The injection pumps are individually replaceable.
- Absorbent filters assure positive protection against dirt and grit being carried by fuel to injection pumps and valves.
- Long life—the result of correct design, precision manufacture and highest quality materials.

No other Diesel fuel system is exactly like it! It is one of the many reasons why "Caterpillar" Diesel Engines are widely preferred—and gaining further popularity at a rapid rate—by railroads for 44-tonners.

- ***For better and lower cost power for 44-tonners,*** *write us for further facts about "Caterpillar" Diesels—and for list of locations where their performance in 44-tonners can be witnessed.*

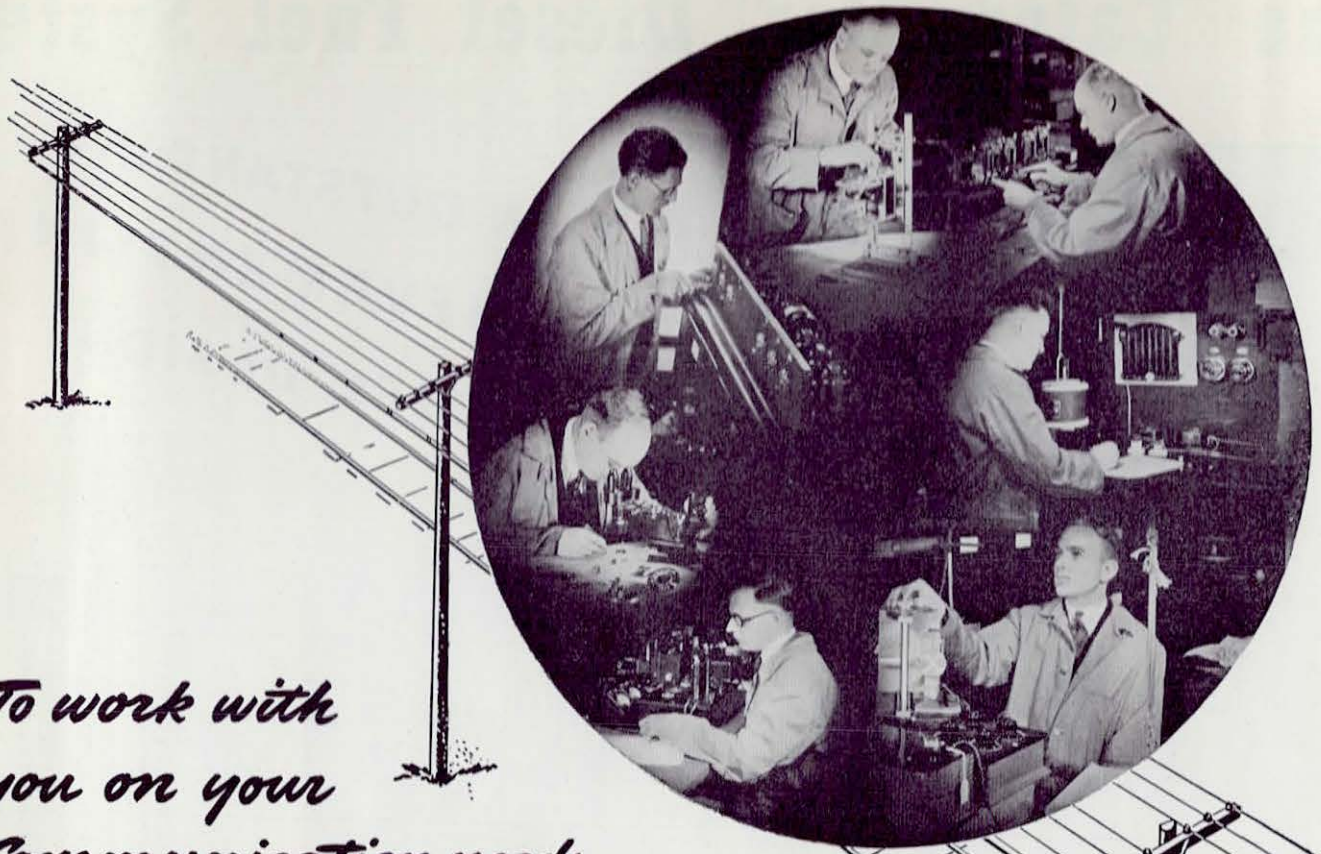
CATERPILLAR TRACTOR CO., PEORIA, ILL.

★ ★ ★ **FOR VICTORY** — *Our armed forces have first call on "Caterpillar" production. We thank customers who have suffered delivery delays by giving clear right-of-way to our Victory efforts.*

CATERPILLAR DIESEL

REG. U.S. PAT. OFF.

ENGINES AND ELECTRIC SETS • TRACK-TYPE AND WHEEL TRACTORS • ROAD MACHINERY



To work with you on your Communication needs-

THE AUTOMATIC ELECTRIC RESEARCH AND DEVELOPMENT STAFF

Railway operation presents many unique and unusual problems to the communication and signaling engineer. Special equipment and circuits must often be designed to perform specific operations. All such apparatus must, in addition, meet unusually stringent requirements in reliability, long life and trouble-free performance.

Automatic Electric — the originator and pioneer manufacturer of the automatic telephone — has unusually complete laboratory and research facilities for developing such special equipment. Its research staff numbers among its members communication inventors and researchers whose reputation is world-wide. This experienced and skilled staff already has to its credit a considerable number of outstanding railway products, designed to meet the specific requirements of various railway communication and remote control situations.

We welcome inquiries from railway communication and signal engineers, not only in regard to our established line of railway products, but also concerning special equipment or circuits to meet any unusual problem that may arise.

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MAKERS OF TELEPHONE, SIGNALING AND COMMUNICATION APPARATUS
ELECTRICAL ENGINEERS, DESIGNERS AND CONSULTANTS

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Vol. 112 March 7, 1942 No. 10

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A review of the Interstate Commerce Commission's report on the Ex Parte 148 case—giving the railroads about 60 per cent of additional freight revenue sought.

Relocation Job Marked by Speed, Heavy Work, Modern Design 489

An outstanding project carried out by the Boston & Maine, involving the relocation of a portion of its main line, is the subject of this article.

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The Railway Age is indexed by the Industrial Arts Index and also by the Engineering Index Service

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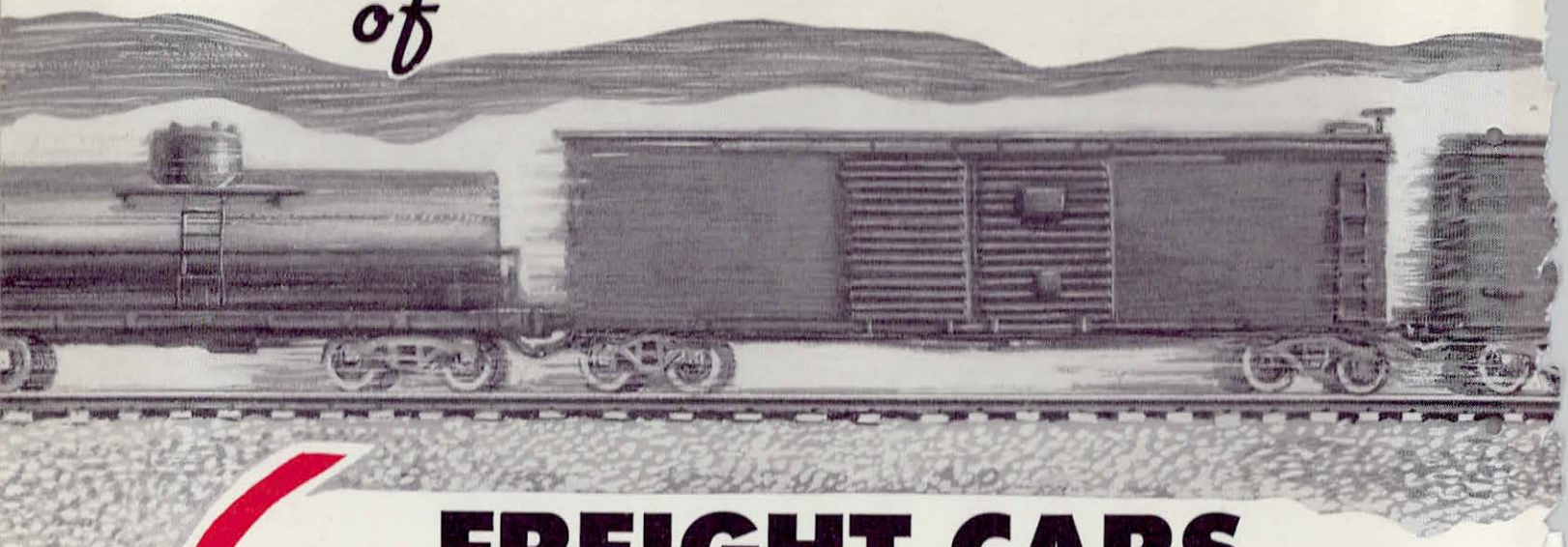
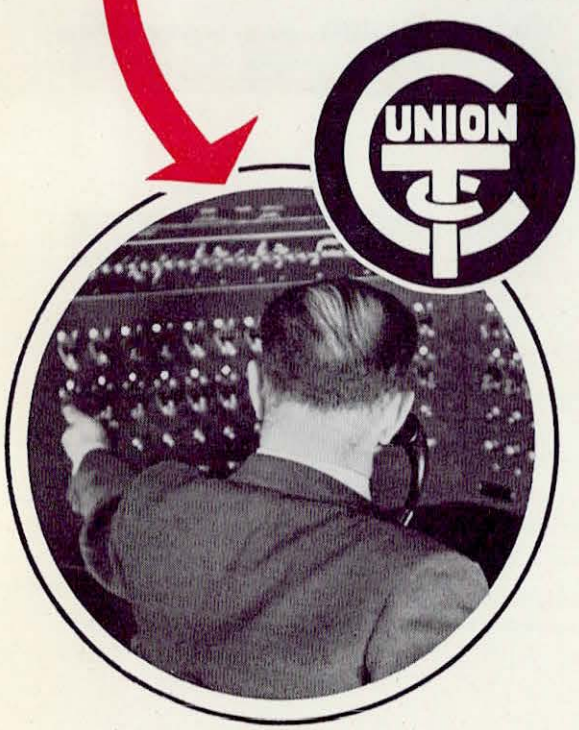
SPEED UP THE MOVEMENT...

of



FREIGHT CARS



THE most logical way to enlarge the capacity of the American Transportation System is to use more efficiently the equipment now in existence.

"Union" Centralized Traffic Control plays an important part in making freight cars available for additional transportation service both by expediting the movement of cars while actually in road trains and by reducing yard delay awaiting dispatching in trains.

Road delay is minimized by the flexibility obtained through movement of trains by authority of signal indications and by the elimination of unnecessary train stops at meeting and passing points. Yard delays are reduced because trains arrive at terminals sooner and on more dependable schedules with the result that their locomotives and crews are available earlier for the prompt handling of cars ready for departure.

C.T.C. will increase the usefulness of both cars and locomotives. This is important for normal shipments, but is vital for those war materials which must be transported long distances from source to user.

2017

UNION SWITCH AND SIGNAL COMPANY

SWISSVALE, PA.

NEW YORK CHICAGO ST. LOUIS SAN FRANCISCO

The Week at a Glance

WHAT GOOD FROM COERCION?: The average freight locomotive was made to yield 66 per cent more service under voluntary inter-railroad co-operation in 1941 than in 1918 under compulsory government co-operation. Voluntary co-operation got 47 per cent more service out of the average freight car in 1941 than the McAdoo type of coerced co-operation did in 1918. The leading editorial herein draws attention to such comparisons as reasons why sane and patriotic Americans should put their faith in present methods of voluntary co-operation under the ODT, each doing his part to make a success of the way of freedom which Mr. Eastman is endeavoring to follow. McAdoo's method was a failure—primarily from the standpoint of the national interest in efficient transportation; and everybody recognizes that it was a failure from the standpoint of shippers and the railways themselves. Who in his right mind wants Mr. Eastman to emulate McAdoo?

●

OFF-TRACK EQUIPMENT: Supplies of crawler-mounted tractors, and other such machines which come under the category of "off-track equipment" for maintenance of way work, have been "frozen" by the WPB—and an editorial herein suggests that the carriers get over to the proper authorities their claims, in the national interest, to a fair share of such of this equipment as is available. The reason is that, with the use of machines of this kind, the railroads can sharply curtail their need for work trains—which block tracks to normal traffic and use up engines, cars and crews that had better be employed to haul war supplies. Then there is the matter of economy. By investing $85,000 in off-track equipment, one road is *saving $300,000 a year* in work-train expense alone.

●

TIPS INCLUDED IN WAGES: In fixing minimum wages, it does not appear that Congress had in mind giving "tipping employments an earnings preference" over others—and, consequently, tips are to be counted in fixing minimum wages of Red Caps. Such was the decision, this week, of a Supreme Court majority—which upheld a decision of a circuit court of appeals. However, this wasn't the way three of the learned justices looked at the case. Jurists Black, Douglas and Murphy think the public "is entitled to know whom it tips, the Red Cap or the railroad." These dissenters insist that the plan of including tips in the calculation of minimum wages "covertly diverts tips from employees for whom the giver intended them to employers for whom the giver did not intend them."

●

LEGAL RACKETEERING: If you have a racket and fear the law, get a union in as a partner and you will be safe. Such seems to be the law, as the Supreme Court finds it. A truck union has been upheld in forcing truck operators to put the union's drivers on trucks entering the union's jurisdiction—or paying the union what the superfluous drivers' wages would be, if the drivers are not used. If that isn't just plain levying of tribute, what is? But the Court didn't say that Congress or state legislatures can't make racketeering by unions illegal; it just said they haven't done so yet. If such racketeering continues unchallenged, it will be because our legislators "planned it that way."

●

PLUCKING THE GOOSE: When a railroad wants to abandon a line, the I. C. C., in granting permission, can hang on a rider requiring the carrier to take such steps as may strike the regulators' fancy to find other jobs for employees so displaced. Here is beautiful modernistic legalism. Two groups (owners and employees) are partners in a business which folds up for want of customers. One of the partners (the ownership) not only has to take its own share of the loss (i. e., the disappearance of most of its property value), but it must now also indemnify the other partner against his share of the disaster. Thus is investment in private enterprise—the source of this country's high living standards—made still more unattractive. Unless the goose which laid the golden egg is a pretty hardy bird, it will soon be a gone gosling at this rate.

●

PROBERS MEAN BUSINESS: Persuasive evidence that the Transportation Study Board hopes to do a constructive job and not "just another report" comes in its designation of Professor W. J. Cunningham of Harvard to direct its investigation into the relative economy and fitness of the various modes of transportation. To be useful this investigation needs to be informed, practical, free of bias and prejudice and concerned primarily with the public welfare. How many persons could fit in so comfortably among such adjectives as the incumbent of the James J. Hill chair of transportation?

●

TRUCK POOLING COMING!: Commissioner John Rogers, former railroader who seems to have become pretty much a trucker by adoption, told a road builders' convention this week that trucking is going to be pooled. Speaking in his role as truck division head in the ODT, Mr. Rogers said the supply of trucks would not make it possible for rival operators over identical routes to carry light loads. They will have to get together so vehicles may be filled to capacity. Duplicate operations, for competitive reasons, by merchants and others will have to be suspended, the speaker predicted.

●

THOSE 2-6-6-6'S: The Chesapeake & Ohio's new design of coal-hauling power is described in an illustrated article elsewhere in these pages. While those six trailing wheels are the main attention-caller to these engines, they are not, as the description reveals, the only novel characteristic this power has which is worthy of interest and contemplation. Built to do 60 m. p. h., the locomotives develop their maximum power output at 30 to 35 m. p. h.

WE HAVE POOLING NOW: J. M. Symes in an article herein says that those who propose what they call a "freight car pool" are really proposing a type of pool which won't work to replace an existing pool which works very well indeed. Cars move anywhere, where they are needed, on the North American continent under the present arrangement—which is all that the common ownership fans can honestly claim for their scheme. But the present arrangement makes *somebody responsible for getting cars to a specific shipper who needs them and for keeping certain particular cars in repair*—a job which would be a "let-George-do-it" under the common ownership plan. "Leave responsibility nowhere," says Mr. Symes unanswerably, and you will be faced "with the certainty that the supply would shrink in numbers, run down in condition, move about in 'hobo' fashion, and the public would suffer through car shortages."

●

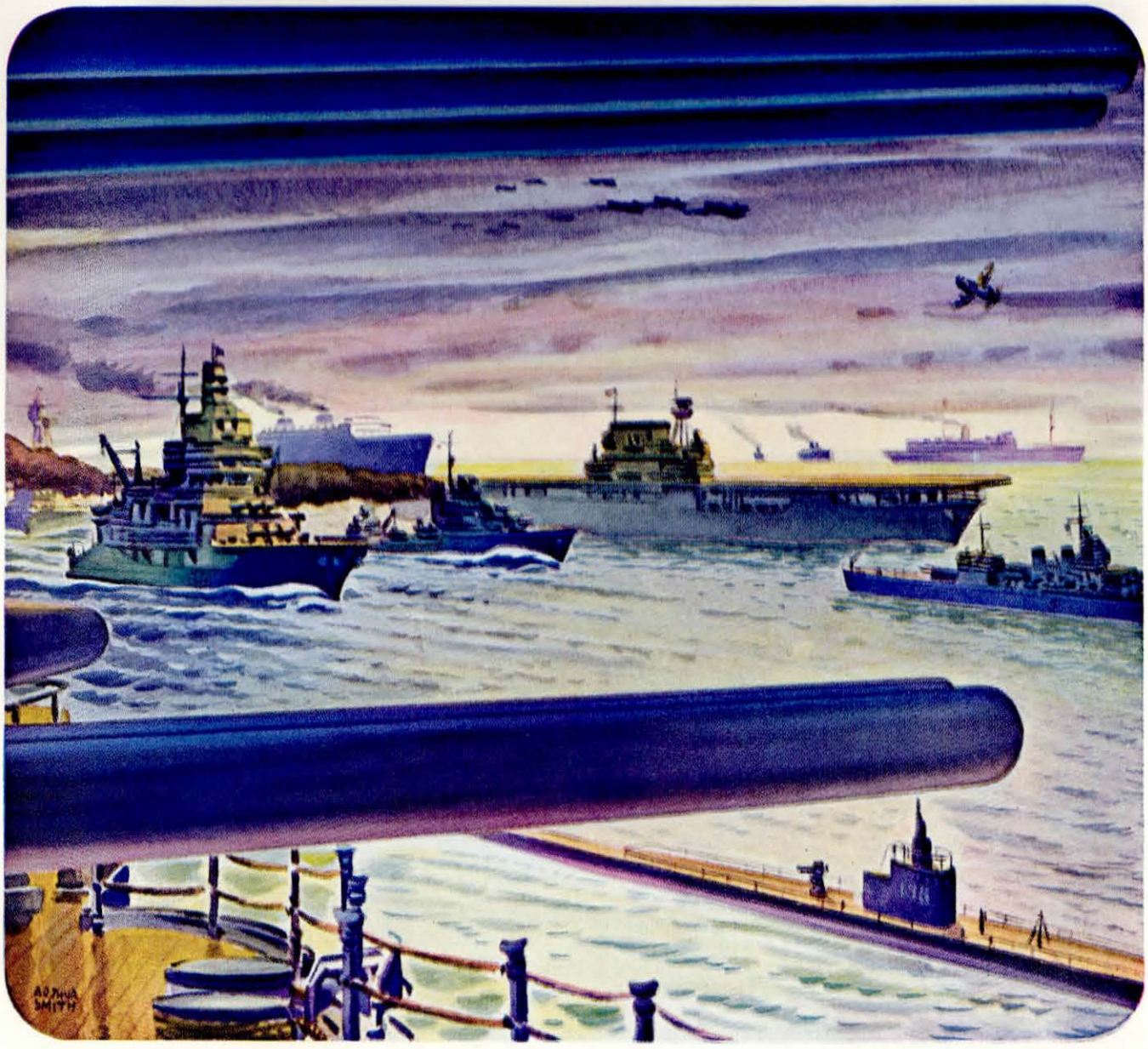
FREIGHT RATE BOOST: The freight rate increases authorized by the I. C. C. are limited to six per cent, by contrast to the 10 per cent the carriers asked for. But even to this six per cent there are important exceptions—precisely on the heavy "basic" traffic which is the mainstay of railroad tonnage. On most of such traffic the increase is only three per cent and the rise in coal rates is expressed in cents per hundred instead of percents. Messrs. Mahaffie, Miller and Patterson said they thought the increases should have been larger, and they objected to the war-time limit on them, pointing out that the wage raises the increases are designed to cover (but don't) are not temporary.

●

DONALD TELLS THEM: The chief of the War Production Board in his radio appeal to industry and labor this week, calling on them to work all machines on war production 168 hours a week, said many things worth taking seriously, but none truer than this: *"The war can be lost in Washington. It cannot be won here."*

●

HOW TO SAVE CARS: The WPB, acting on advise from Mr. Eastman's office, has released some tank truck equipment to replace tank cars on excessively short hauls. A case is cited where tank cars were being used for a one-mile haul which tied up 15 tank cars—a job which a single 400-gal. truck can take over. On a 14-mile haul eight trailers will replace 70 tank cars averaging seven-days' turn-around. If the right hand of the ODT knoweth what the left hand doeth, perhaps this example may enlighten it on the proper approach to wasteful merchandise handling. Lightly loaded cars are only a symptom. The waste originates in the railroads handling short hauls and the trucks handling long hauls, and in the fact that full loads are "picked and chosen" away from the railroads—putting upon them the bulk of the light loads and empty movement for the whole transportation industry.



SHIPS WILL WIN THE WAR

Ships for every ocean . . . ships for every need . . . battleships, cruisers, carriers, submarines; ships for troop transport and supply . . . ships will win this war.

For with ships and ships only, can the ever increasing stream of men, machines and munitions be delivered to defeat the enemy wherever he may be found.

To build these ships in time, all of us must help . . . not only the worker in the shipyard . . . but the molder in the mill . . . the tool maker in the factory . . . the railroad man and miner . . . the electrician and power engineer . . . and the rest of us by buying Defense Bonds. These are mighty hammer blows for Victory.

THE OKONITE COMPANY
Insulated Wires and Cables, Passaic, N. J.

★ **Here at our 3 factories men and machines work night and day to build the insulated wires and cables that provide safe, sure electrical power and control for the ships that will win the war.**

RAILWAY AGE

"Compulsion or Co-operation?"

Those who are trying to use the present war to further their political ambitions or other ulterior objectives may wisely recall the experience of W. G. McAdoo during and after the last war. In 1917 he had made such a success as our war Secretary of the Treasury that many, including himself, began to believe he was a great executive, if not a great statesman. On the adoption of government operation he was appointed also Director-General of Railroads; and at his first press conference as Director-General late in December, 1917, he told what he believed was the matter with the railroads and how he intended to revolutionize their management to remedy it. A man who heard him, and who had had much better opportunity than Mr. McAdoo to know the railroad situation, said immediately after this press conference: "Of one thing you may be certain; the railroads will be returned to private operation. That man will do exactly what he said he will; and it will make government operation so unpopular that public sentiment will force a return to private operation."

It was plain from the start that Mr. McAdoo was using his position to perpetuate government operation and promote his candidacy for President. He had and used almost unlimited power; but he was dealing with a transportation problem of the greatest complexity and difficulty of which he was ignorant; and the more he used his power and political methods the more he antagonized the experienced railway officers and the shipping public whose co-operation and support he most needed. Consequently, he actually reduced the efficiency of railway operation, and succeeded only in greatly increasing operating expenses and rates, in destroying his previous prestige and popularity, and consequently in destroying any chance he may have had to become President.

The railway situation was widely different in 1917 and 1918 from what it has been during our defense and war efforts since May, 1940, and is now. There were severe congestions of traffic and shortages of cars before as well as throughout our participation in the last war. There have been none during the twenty-one months of our recent defense and war efforts. The railroads during these twenty-one months have made a virtually perfect record of service; and you can change a perfect record only by making it worse. This record has not been due to good fortune or accident. It has been due to efficient railway management and to efficient co-operation between the railways themselves and of shippers with them—all developed throughout the period since the last war, and all voluntary.

The Prospective Increase of Traffic

The problem of enabling the railways to handle all the freight offered them threatens to be more difficult in future. More steamers are being removed from coastwise service; because of the rubber shortage there will be a large diversion of traffic from the highways to the railways; and probably both railway management and the shippers' boards are underestimating the demand for increase in carloadings, and especially in ton-mileage, that will be made on the railways in 1942 and 1943. Because of the unexpected changes in ocean and highway transportation, and of the continuing failure of government to make good on its promises of materials to the railways and manufacturers of railway equipment and supplies, there is increasing danger of a real shortage of freight cars and of a still worse shortage of locomotives. And, of course, the prospective increase in demand for passenger transportation by rail, due to the shortage of automobile tires, is so great that there is no hope of meeting it by any apparently available means.

"Maudlin Talk About Co-operation"

How can the prospective problem of freight transportation by rail be best solved—by still more effective voluntary railway and shipper co-operation, and by government enabling the railways to get more equipment and materials, or by government compulsion? It is the misfortune of Director of Defense Transportation Eastman and his staff that they were appointed by the government just when, after twenty months of completely

successful private railway management and voluntary co-operation, the railroad problem was being made more complicated and difficult by the protracted and continuing failure of government to allocate enough materials for railway maintenance and expansion and by development of the rubber shortage. But Director Eastman is a highly-trusted government official who should be able to exert more effective pressure than anybody from private life for adequate allocation of materials necessary to maintain and expand railway facilities.

How, then, best solve the problem of securing maximum practicable utilization of whatever facilities may be available? Some apparently believe that railway and shipper co-operation must be largely supplemented or replaced by government compulsion. The Traffic World, in an editorial entitled "Co-operation or Compulsion?" in its issue of February 14 said in part:

"It would be fallacy to suppose that the maximum of efficiency could be attained by merely asking for co-operation, and unfair and foolish to expect it—unfair because they who co-operated would be at a disadvantage compared with those who 'chiseled,' and foolish because the desired end would not be attained. * * * Those who are willing to co-operate have nothing to lose by an order requiring them to do so and ought to be glad of the protection afforded; on the other hand, those unwilling must be compelled. * * * Maudlin talk about co-operation being better than compulsion comes from those who are seeking some way to serve their selfish ends or are ignorant of the facts of life."

Elsewhere in the same issue the Traffic World said: "The sycophantish magazine mentioned (i. e., *Railway Age*) defends Director Eastman and his organization on the theory that criticism is destructive and does not contribute to the efficacy of the war effort. . . . Only a blackguard would make a charge of such intent against us and only a fool would believe it."

Thersites on the Transportation Problem

"Chiselers," "maudlin talk about co-operation," "selfish ends," "ignorant of the facts of life," "sycophantish," "blackguard," "fool." These constructive contributions to solution of the nation's great transportation problem might have emanated from an ancient prototype of Donald Duck Ickes and the Traffic World—viz., the lame Thersites, described by Homer as, "Loquacious, loud and turbulent of tongue; awed by no shame, by no respect controlled; in scandal busy, in reproaches bold; . . . spleen to mankind his envious heart possessed, and much he hated all—but hated most the best." Why all this advocacy of compulsion and this Thersitish reviling of those defending co-operation? It sounds as if inspired by persons in Washington anxious to discredit private railway management, co-operative shippers and their organizations, and the Office of Defense Transportation, and, beginning with a modicum of government compulsion, to end with complete government management. Every railway officer and well-informed shipper in the country, and apparently Director of Defense Transportation Eastman, favor continuance of voluntary co-operation as long as it will continue to get such results as it has in the past, and oppose any increase in government compulsion until it shall have been satisfactorily demonstrated to all informed persons that co-operation must be supplemented by compulsion.

What Co-operation Has Accomplished

Why say "it would be fallacy to suppose that the maximum of efficiency could be attained by **merely asking for co-operation**" after co-operation has not merely long been "asked for," but for years given to the utmost, with the actual, demonstrable result of confounding all critics of co-operative private operation, including even Harold Ickes (see *Railway Age*, February 21, page 420)—but excepting, of course, the Thersites of the Traffic World? The average freight locomotive rendered 66 per cent, and the average freight car 47 per cent, more freight service under voluntary co-operation in 1941 than under government operation and compulsion in 1918. The average freight locomotive rendered 40 per cent, and the average freight car 35 per cent, more freight service in 1941 than in 1929, both under voluntary co-operation. And this increase in efficiency is continuing. In the latest month for which data are available, (November, 1941) the railways produced 20 per cent more ton-miles than in November, 1929, with about 24 per cent fewer freight locomotives and 21 per cent fewer freight cars —representing increases of about 60 per cent in locomotive efficiency and of about 54 per cent in freight car efficiency since 1929—all due to increased efficiency of railway facilities and management, increased co-operation between the railways themselves and increased co-operation by the shippers with the railways. Why talk about more compulsion now when, in spite of continued failure of government to provide needed railway materials, results far exceeding all forecasts of railway critics are still being secured, and when the potentialities of the methods being voluntarily used are still far from exhausted?

Voluntary Pooling Versus Compulsory Pooling

One of the forms of government compulsion often advocated and again being hinted at in some quarters is enforced "pooling" of cars. No man is better informed regarding all factors of the problem of securing maximum utilization of available freight equipment than J. M. Symes, vice-president of the Pennsylvania and formerly vice-president (operation) of the Association of American Railroads; and at the request of this paper Mr. Symes has written an article on pooling which is published in this issue of *Railway Age*. Some of the facts he presents will surprise even some railway officers, and all of them should be highly enlightening to persons outside the railroad industry who have no idea

of how approximately completely the freight-carrying facilities of American railroads have been voluntarily pooled by private management. They are, in fact, pooled much more efficiently than when they were supposed to be completely pooled under government management during the last war; and to this is largely due the fact that the railroads are now handling so much more traffic with so much less equipment than they had a decade ago, or even than they had under government operation twenty-four years ago. Those tempted to advocate "pooling" now should first ascertain of what the railway machine consists now and how it is actually operated; and when they have learned this they will, if rational, feel less disposed to advocate revolutionizing, in this time of emergency, a machine and methods that have been producing the largest and most largely increased output of transportation in history with virtually complete satisfaction to all customers—including government, the largest customer.

Shall Shippers Route Their Traffic?

Another compulsory measure being toyed with is revocation of the peace-time legal power of shippers to route their freight. Doubtless there are persons with "chiseling" inclinations; but the Association of American Railroads and the regional shippers' boards are voluntarily policing the handling of cars more effectively than any agency exercising the power of compulsion could; and, therefore, probably this would be the worst possible time to deprive all shippers of power to route their freight. It would stigmatize shippers as a class as inefficient or disloyal when virtually all of them are giving the most efficient and loyal co-operation to the railways and the nation that they can; and thus to stigmatize a class of men virtually all of whom are patriotically contributing their utmost toward keeping the nation's civilian and war traffic moving would be about the best means that could be adopted to cause them disgustedly to leave government compulsion to accomplish what, without full shipper co-operation, no amount of government compulsion could accomplish! Shippers, like railway officers, are striving mightily to demonstrate the superiority of voluntary private enterprise to government compulsion; and they would give as cold a welcome to unnecessary government meddling as railway officers.

The Mistakes of McAdoo—How Avoid Them?

W. G. McAdoo ignorantly believed, when he became Director-General of Railroads, that the very best time to revolutionize railroad management and operation was in the midst of the greatest transportation emergency, and one of the greatest national emergencies, that ever existed in the United States. The results were very bad for the war effort. They were very bad for shippers, who had to pay a huge advance in rates. They were very bad for taxpayers, who had to pay a big railroad deficit. They were very bad for the railways, which, after their return to private operation, had to bear a huge increase in operating expenses and a drastic reduction in the margin between their gross earnings and expenses. And they were most unhappy for Mr. McAdoo for reasons intimated at the beginning of this editorial.

This, like the period of the last war, is no time for experimenting with revolutions in transportation—especially in the teeth of the fact that railways and shippers, by present methods, have accomplished already a most salutary revolution resulting, unlike Mr. McAdoo's revolution, in a phenomenal increase in efficiency unaccompanied by a huge advance in rates. The advances in freight and passenger rates made by Mr. McAdoo in May, 1918—five months after he became Director-General—amounted to a billion dollars a year; those recently authorized by the Interstate Commerce Commission amount to only $250 million a year. The solution of the problem with which railroads, public and government are now confronted is to (1) exert much more effective pressure than heretofore for the furnishing of adequate materials to the railways and manufacturers of railway equipment and supplies; (2) continue using indefinitely present voluntary co-operative methods of increasing railway service; and (3) resort to compulsion just as little as possible, and only in local and isolated cases in which the co-operating railways and shippers may need, and may concede they need, the backing of government coercion.

Grade Crossing Accidents

National Safety Council statistics for 1941 show that approximately 18,000 workers in the United States were killed by occupational accidents. A still more significant fact, however, is that an additional 29,000 were killed in off-the-job accidents. The Council estimates that this loss of man power represented labor sufficient to build 20 battleships, 200 destroyers and 700 heavy bombers. As pointed out in the editorial comment "What Is Happening to the Railroad Safety Record?" in the *Railway Age* of February 28, 1942, the railroads have an excellent passenger fatality record and have been successful in making a marked reduction in employee fatalities over the years. Greater intensity of operations, it is true, is tending to increase the accident rate, but the railroads generally are determined to hold it down, for humanitarian reasons primarily, but also in the interests of keeping the wheels rolling at a time when every move counts in the national emergency.

One hazard that seriously affects the railroads and which should be eliminated is discussed by Chas. E. Hill, general safety agent of the New York Central System, in an article elsewhere in this issue. Col-

lisions at rail-highway crossings between motor vehicles and trains cause death and injury to railroad employees and to passengers on railroad trains, as well as to the motorists. Many, if not most of these accidents are due to gross carelessness on the part of the motorist. The records show, for instance, that in one-third of such accidents the motorists actually drive their cars into the side of the trains. Moreover 82 per cent of the grade crossing accidents occur on crossings that have special protection.

Although the exact figures are not available, it is known that many of the people killed and injured in these grade crossing accidents are employees in essential national defense industries. The problem is complicated by the fact that many of the workers in such industries travel comparatively long distances in automobiles in going to and from their work. Conditions will not be improved as the cars and tires grow older, although the shortage of rubber many eventually take many of them off the road altogether.

The National Safety Council is preparing for an all-out endeavor to reduce accidents of every sort—in industry, in the home, on the farm, on the roads and in all sorts of transportation, etc. It is fast speeding up its efforts to make the entire nation "safety conscious." The railroads will, of course, do their part in such a program, and will be greatly aided by it. Mr. Hill has performed a real service in pointing out how the public can help in reducing grade crossing accidents.

Off-Track Equipment

In an order issued on February 19, the War Production Board "froze" the stocks of "track laying" or crawler-mounted tractors and auxiliary equipment, including bulldozers, angle dozers and winches mounted on such tractors in the possession of builders, distributors and dealers until the Board could make an inventory of the number of these units available and forestall their delivery for other than essential uses. This order is of very direct concern to the railways and of scarcely less concern to those governmental authorities who must look to the railways for the transportation of essential materials. For this reason, it is highly important that the needs of the railways be given adequate consideration in the determination of the distribution to be made of the equipment that the inventory will determine to be available. The importance of this order to the railways arises from a development in their construction and maintenance of way practices that has taken place during the last three or four years and that may still be said to be in its infancy. This relates to the rapidly growing use of off-track work equipment, largely crawler-mounted.

In the routine maintenance of railway tracks and structures it is necessary to do a large amount of "ditching" constantly; it is necessary to remove slides and clean out waterways along side hill locations; it is necessary to "fill" many trestle bridges as the life of the timber is reached and it is necessary to "drive" new piling where the opening must be maintained. Work of this character must be done in large volume constantly if the roadway and structures are to be maintained in condition adequate for traffic. It is an accepted part of essential roadway maintenance in times of light or normal traffic; it is doubly necessary now when dependability of operation is so essential.

Until a few years ago this work was done universally by means of steam shovels, ditchers, dump cars, cranes, pile drivers and similar equipment, all track-mounted and commonly operated in conjunction with work trains. And this is the practice that is still followed on most roads. Within the last few years, however, the rising costs of this work train service have impelled a few roads to look into the possibilities of utilizing off-track equipment as a means of effecting economies by eliminating the cost of work trains.

The versatility of this equipment has been found to be so great that the economies have exceeded the most enthusiastic hopes of its proponents. On the Denver & Rio Grande Western, for illustration, the expenditure of some $85,000 for off-track work equipment has made possible a reduction of nearly $300,000 annually in work train expense alone, to say nothing of other advantages and economies realized. As a result of such experiences, the railways are awakening rapidly to the possibilities for widespread use of equipment of this character, and more of it was purchased and put to work last year than ever before, while a study of the budgets of the larger roads shows that still larger purchases are contemplated this year.

The order freezing deliveries of equipment of this character will, if made permanent, block these purchases. And if the consideration on the part of the railways was solely one of economy, it would obviously have no standing in competition with the needs of our armed forces. There is, however, another and very important outgrowth of the use of this equipment by the railways that bears a very important relationship to the activities of our armed forces that does warrant most careful consideration now.

The railways are moving the heaviest traffic in their history; and it is expected that it will increase to still higher levels. To date the railways have moved all the traffic offered with remarkable efficiency. To continue this record requires that they secure the greatest possible service from every car and locomotive; and the diversion of this equipment to work train service in essential maintenance operations reduces the ability of the railways to haul defense and civil traffic to that extent at a time when this reduction in capacity cannot be tolerated. When it is realized that these essential work train activities normally require several hundred locomotives and several thousand cars throughout the spring and summer, the extent of the inroad on traffic-handling

capacity is evident and the importance of releasing every work train possible by the use of off-track equipment becomes equally evident.

Nor is this all; for the presence on operated main tracks of work trains, with their auxiliary equipment, constitutes a source of interference with every revenue train operating over those tracks, and tends not only to delay these trains but to reduce the traffic-handling capacity of the railways. It is important, in the interest of maximum traffic capacity, to avoid the diversion of badly-needed equipment to these maintenance operations and also to avoid interference with trains handling civilian and military traffic. Both these inroads on railway capacity can be reduced by the use of off-track equipment. As such, these railway requirements become of interest to national defense.

In the War Production Board's release referred to above the statement is made that 29,849 crawler-type tractors were built in 1941, and that the output this year is not expected to exceed 30,000 to 35,000 units. The railways need and are able to use only a very minor part of this production. In 1941 their purchases, according to the best figures now available, did not exceed 250 units; their proposed purchases this year, if unrestricted, would probably not exceed 400 units. Their requirements, if met in full, would take only about 1 per cent of the number of these units to be built. And this number, if made available to the railroads, would release cars and locomotives that could and would contribute in a very real way to the movement of our war and civilian traffic. It is to be hoped that the military aspect of the railway needs for this equipment will be presented to and recognized by the War Production Board.

Treating Symptoms or the Disease Proper?

There is a great deal of discussion about "planning" for conditions which will arise when the war ends. So far the socializing "planners" on the government payroll have done most of the talking and propagandizing on this subject. They have been very successful in securing widespread acceptance of (1) the extremely debatable conclusion that the government ought now to accumulate a large "reservoir" of "public works" to be undertaken as soon as hostilities cease—to take up the slack in jobs when munitions manufacture stops, and (2) that "planning" for the economic future is a governmental prerogative, instead of a function to be left—as it always has heretofore—to the people themselves.

Other more realistic observers of economic and political developments have pointed out that, unless we win the war at a reasonably early date, there won't be much of any future to plan for. These realists go on to remark that the economic future is now being largely *determined* by the way individuals and companies are doing their present jobs. Bright socialistic dreams will not have as much to do with the looks of the future as day-to-day practical managerial action now.

There has been so much political ganging-up on business that the latter has got to "plan" cooperatively, a great deal more than it ever did before—if for no other reason than the fact that its opponents have laid their own plans so carefully. So your reporter is not knocking the idea of long-range planning by railroads and other business when he directs attention to the force of present action in the determination of the future. This last may mean more than any amount of "planning," and it doesn't get the attention it deserves.

It is because day-to-day action so largely decides what is going to happen later that the proposals with respect to the handling of merchandise traffic are so important. By now it is no longer a secret that the ODT is contemplating issuing an order forbidding the railroads to handle light loads of l.c.l., or to hold cars very long for heavier loads. Such an order would either force a large degree of pooling of this traffic by the railroads themselves, or would require them to abandon the handling of much l.c.l. traffic entirely—relinquishing it to forwarders and trucks.

The railroads would not miss this traffic now, and some might even be inclined to kiss it goodbye without present grief. But there is much more, even to the wartime problem of wasteful handling of l.c.l., than the mere fact that some railroad l.c.l. cars are lightly loaded. Such light loading is a symptom. The causes are more far-reaching. They include the fact that well-loaded forwarder cars accompany the lightly-loaded l.c.l. cars to identical destinations; and also that trucks are paralleling the movement of l.c.l. cars over long distances (uneconomical movements when comparative *costs*, rather than rates, are used as a test). Railroad merchandise loads per car could be maximized by orders limiting forwarder and truck operations, just as easily as by orders directed against the railroads.

Economy in merchandise handling is an imperative necessity as a war measure—but to this end it is just as desirable to utilize truck equipment economically as it is to eliminate wasteful use of freight cars.

It seems desirable, therefore, even as a war measure, that whatever steps are taken to promote efficient l.c.l. movement, really tackle the problem comprehensively, instead of merely dealing superficially with a symptom. Considering the likelihood that developments in this direction will last not only "for the duration," but may largely determine the future, it seems doubly desirable that whatever action is taken *conform with, rather than go counter to, an economic division of traffic among the various agencies of transportation.*

Wise and public-spirited action in this direction would entitle the men who conceive and institute it to a position of honor of long duration in the annals of the transportation industry.

C. & O. "Allegheny" Locomotives

First of 2-6-6-6 Type

New power built by the Lima Locomotive Works designed to handle heavy trains over the Allegheny mountains—Tractive force 110,200 lb.

EARLY in January the Lima Locomotive Works, Inc., delivered to the Chesapeake & Ohio the last of an order of 10 heavy articulated six-coupled locomotives which are not only the first design of the 2-6-6-6 wheel arrangement, but are the heaviest four-cylinder six-coupled articulated locomotives built to date. Another order of 10 locomotives of similar design is now under way in the same builder's plant.

The 2-6-6-6 type was originated by the mechanical department of the C. & O. under the supervision of D. S. Ellis, chief mechanical officer. They were designed specifically for operation over the Allegheny mountains where the line reaches an elevation of 2,072 ft. above sea level and grades are in excess of 1.14 per cent, with curves of 6 deg. They will also be used to supplement the railway's class T-1 2-10-4 type locomotive now in operation between Russell, Ky., and Toledo, Ohio. The new locomotives have a tractive force of 110,200 lb. The boiler pressure is 260 lb. and the driving wheels 67 in. in diameter. The four cylinders are 22½ in. by 33 in. The total weight of engine and tender with the latter fully loaded is 1,150,600 lb.

In the field of heavy motive power on the C. & O. these locomotives represent an interesting comparison with the Class H-7a articulated units built in 1924 and 1926 and the Class T-1 2-10-4 type built in 1930 for service on the west end of the road between Russell, Ky., and Toledo, Ohio. Table I shows a comparison of the principal characteristics of these three classes of locomotives with two other large six-coupled locomotives of high capacity. While the Allegheny type locomotives are designed for maximum speeds of 60 m. p.h. the objective of the design is to develop maximum continuous power output at speeds of from 30 to 35 m. p. h. The steam distribution system has been designed with a view to full capacity operation with a minimum drop in steam pressure between the dome and the cylinders.

The Boiler

The boiler has an over-all length of 45 ft. 11 in. and is constructed with three barrel courses. The first course is conical, with an inside diameter of 98 in. at the front. The third course, which surrounds the combustion chamber has an outside diameter of 109 in. Both shell and firebox sheets are of carbon steel. The three shell courses have sheets $1^{9}/_{32}$ in., $1^{5}/_{16}$ in. and $1^{11}/_{32}$ in. thick, respectively. The firebox roof sheet is $1^{1}/_{8}$ in. thick. The longitudinal shell course seams are designed, with an efficiency of 86.1 per cent, with a view to reducing stress concentration to a minimum. The seams are triple riveted and caulked inside and outside.

The combustion chamber is 118 in. long and the firebox 180 in. long by $108^{1}/_{8}$ in. wide. The crown sheet has an approximate length of 25 ft. and a total slope, from front to back, of $11^{3}/_{4}$ in. The water space at the mud ring is 7 in., front, back and sides.

There is a full installation of flexible bolts around the

combustion chamber. Flannery Type K and KJ bolts are used in the breaking zone of the side sheets; in the two boundary rows of the side sheets and of the back head. Flannery Type CK expansion stays are used at the 27 front rows of the combustion chamber, bituminous coal which is fed by a Standard Type MB stoker. The firedoor is a Franklin butterfly Type No. 8. The boilers are equipped with Nathan Type B low-water alarms and water circulators are applied to the first course, right side. T-Z blow-off cocks are located at

Table I—Comparative Characteristics of Large C. & O. and Other Six-Coupled Locomotives

Railroad	C. & O.	C. & O.	C. & O.	N. & W.	D. & R. G. W.
Wheel arrangement	2-6-6-6	2-10-4	2-8-8-2	2-6-6-4	4-6-6-4
Road class	H-8	T-1	H-7-A	A	L-105
Road numbers	1600-1609	3000-3039	1570-1589	1200-1201	3700-3709
Builder	Lima	Lima	Baldwin	R. R. Co.	Baldwin
Date built	1941	1930	1926	1936	1938
Service	Freight	Freight	Freight	Freight and Passenger	Freight
Weight on drivers, lb.*	471,000	373,000	504,500	430,100	437,940
Total engine weight, lb.*	724,500	566,000	584,600	570,000	641,900
Tender weight, lb.	426,100	415,000	376,340	378,600	394,000
Cylinders, diameter and stroke, in.	(4) 22½ x 33	(2) 29 x 34	(4) 23 x 32	(4) 24 x 30	(4) 23 x 30
Driving wheels, diameter, in.	67	69	57	70	70
Steam pressure, lb.	260	265	225	275	255
Fuel	Bit. coal	Bit. coal	Bit. coal	Bit. coal	Bit. coal
Grate area, sq. ft.	135.2	121.0	112.2	122.0	136.5
Firebox heat. surf. total, sq. ft.	600	477	467	530	613
Evap. heat. surf., sq. ft.	7,240	6,635.5	6,581	6,650	6,341
Super. surf., sq. ft.	3,186	3,030	1,885	2,703	2,628
Tractive force, engine, lb.	110,200	93,350	113,600	104,500	105,000
Tractive force, booster, lb.	None	15,275	None	None	None
Fuel capacity, tons	25	30	20	22	26
Water capacity, gals.	25,000	23,500	16,000	22,000	20,000

*Weights in working order.

9 rows wide. The water space rigid bolts are Alco Type P and PH.

Seal welding is used at the seams joining the wrapper side and roof sheets at firebox mud-ring corners and at the caulking edges of longitudinal barrel course seams. The firebox and combustion-chamber seams are all welded except the back head and inside door-sheet seams, which are riveted. The firedoor seam, the tube-sheet-ring seam and the smokebox joints are also welded.

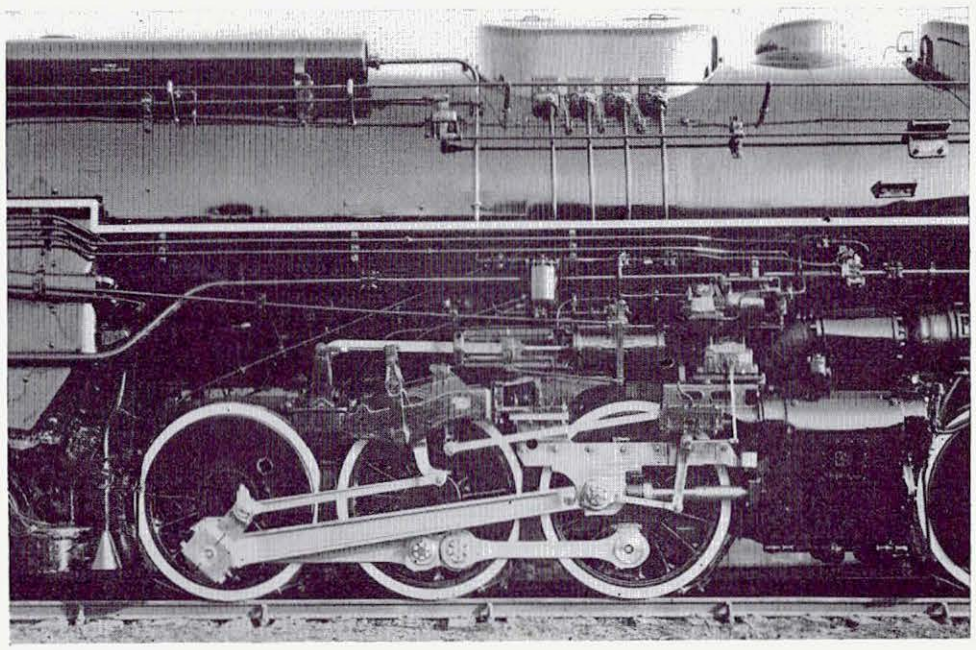
The firebox has three syphons located in line transversely and connected from crown to throat. The superheater is the Type E with an American multiple throttle in the header. The feedwater heater is the Worthington Type 6½ S with the Type 6½ SA hot-water pump located under the air compressors. The cold-water pump is under the left side of the cab. The feedwater heater capacity is 14,400 gal. per hour. A Nathan Type 4000 automatic restarting injector has a capacity of 14,500 gal. per hour.

The fireboxes are fitted with Firebar grates having approximately 25 per cent air openings. The fuel is the four firebox corners, the two forward blow-off cocks discharging through a Wilson centrifugal muffler on top of the boiler.

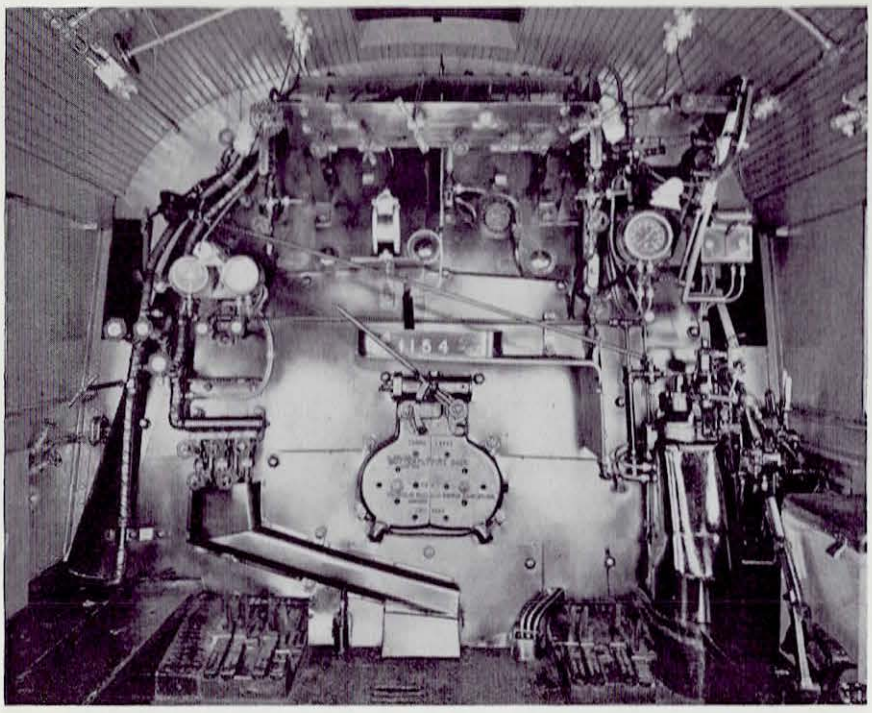
The Running Gear

The engine beds, supplied by the General Steel Castings Corporation embrace the cylinders, back heads, cradle, brake-hanger brackets, drawbar pockets, equalizer fulcrum pin supports, front deck, guide yoke, reverse-gear bracket and cold-water-pump bracket. The front and rear engine beds are connected at the rear cylinders by an articulation joint having a tongue cast on the front bed which fits into a pocket cast into the rear bed and secured by a hinge pin. The articulation hinge is fitted with bushings and has wear plates at the top and bottom of the pocket to insure the correct relation of the beds to each other. The hinge pin is mechanically lubricated.

The beds are designed with unusually large pedestal toes, alloy-cast-steel binders and nickel-chrome binder



Arrangement of the Running Gear of the Rear Engine—Both Sets of Valve Motion Are Operated From a Single Power Reverse Gear



The Cab Is Unusually Roomy and the Controls Are Well Arranged

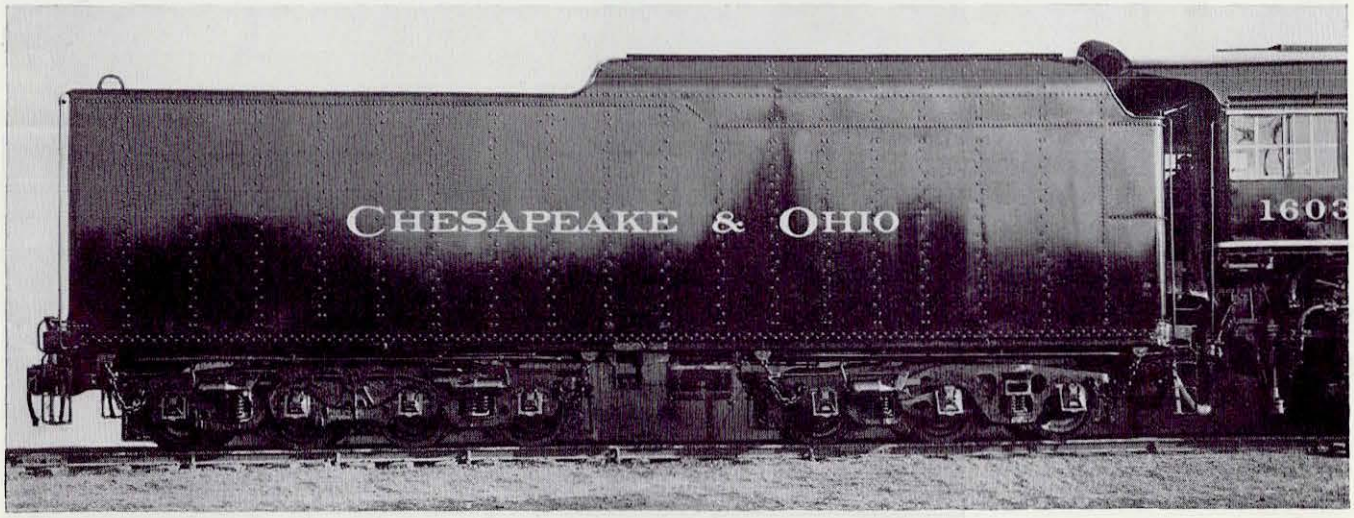
bolts and studs. The beds are fitted throughout with Ex-Cell-O bushings. Cast-steel frame shoes, with phosphor-bronze liners, are used to maintain the position of the roller-bearing housings in the pedestals.

A single boiler bearing of the sliding shoe type, in which is incorporated a coil-spring centering device, is used for transferring the weight of the boiler to the front engine. Sliding shoes are used at the four corners of the firebox; these are enclosed in oil-tight casings and are mechanically lubricated. In addition to these furnace bearers lateral bearers are used at the rear of the firebox.

The driving wheels are cast steel, of the conventional spoke type, with reinforced sections. They are fitted with 67-in. tires, set 53¼ in. at all driving wheels. The driving axles are hollow-bored, medium carbon steel and are mounted in Timken double roller bearings with split housings. The front drivers of each engine are equipped with the Alco lateral cushioning device.

The leading engine truck is the General Steel Castings Corporation's two-wheel outboard bearing type with 36-in. Armco rolled steel wheels mounted on medium-carbon-steel axles operating in Timken roller bearings. The six-wheel trailer truck was also supplied by the same manufacturer and is of the outboard bearing type with plain-bearing journal boxes. The trailer axles are medium carbon steel and the front and intermediate trailer axles are mounted with Armco 36-in. rolled-steel wheels while the back axle is fitted with 36-in. cast-steel centers and 43-in. tires. Rockers are used at the rear of the trailing truck with stops to limit the travel. The Timken lateral-control device is used over the front and intermediate trailer boxes. The rollers and plates of this devise are made of Timken steel and are not lubricated.

The cylinders, cast integral with the beds, have Hunt-Spiller gun-iron bushings and the piston and valve packing rings are the Hunt-Spiller combination rings. The pistons are cast steel with medium carbon-steel rods. The piston valves are 12 in. diameter, with 8-in. travel, actuated by Baker valve gear with Multiroll needle bearings, controlled in turn by an Alco Type H



The 25-Ton, 25,000-Gallon Tenders Have Six- and Eight-Wheel Trucks

power reverse gear located on the rear engine. The front engine valve gear is controlled through a reach rod between the front and rear engines having universal joints and a crosshead located in the cylinder saddle.

Table II—General Dimensions and Weights of the Chesapeake & Ohio 2-6-6-6 Type Locomotives

Builder	Lima Locomotive Works, Inc.
Type	2-6-6-6
Road class	H 8
Road numbers	1600-1609
Date built	December, 1941
Service	Freight
Rated tractive force, engine, 85 per cent, lb.	110,200
Weights in working order, lb.:	
On drivers	471,000
On trailing truck	189,000
On front truck	64,500
Total engine	724,500
Tenders, fully loaded (7)	437,600
(3)	426,100
Wheel bases, ft.-in.:	
Driving	34 — 8
Engine total	62 — 6
Engine and tender total (7)	112 — 11
(3)	112 — 6½
Driving wheels, diameter outside tires, In.	67
Cylinders, number, diameter and stroke, in.	(4) 22½ x 33
Valve gear, type	Baker
Valves, piston type, size, in.	12
Maximum travel, in.	8
Boiler:	
Steam pressure, lb.	260
Diameter, first ring, inside, in.	98 (front) 103¾ (back)
Firebox length, in.	180
Firebox width, in.	108⅛
Combustion chamber length, in.	118
Arch tubes, number and diameter, in.	None
Thermic syphons, number	3
Tubes, number and diameter, in.	48—2¼
Flues, number and diameter, in.	278—3½
Length over tube sheets, ft.-in.	23—0
Fuel	Bituminous coal
Grate area, sq. ft.	135.2
Heating surfaces, sq. ft.:	
Firebox and comb. chamber	600
Syphons	162
Firebox, total	762
Tubes and flues	6,478
Evaporative total	7,240
Superheating	3,186
Combined evap. and superheat.	10,426
Tender:	
Style	Rectangular—U
Water capacity, U.S. gal.	25,000
Fuel capacity, tons	25
Trucks	Six- and eight-wheel

The crossheads are the multiple bearing type, of cast steel, with the bearing surfaces tin lined. The main and side rods are medium carbon steel with floating bushings of Hunt-Spiller iron and Magnus bronze at the main pin connections. The crank pins and knuckle pins are grease lubricated by the Alemite system.

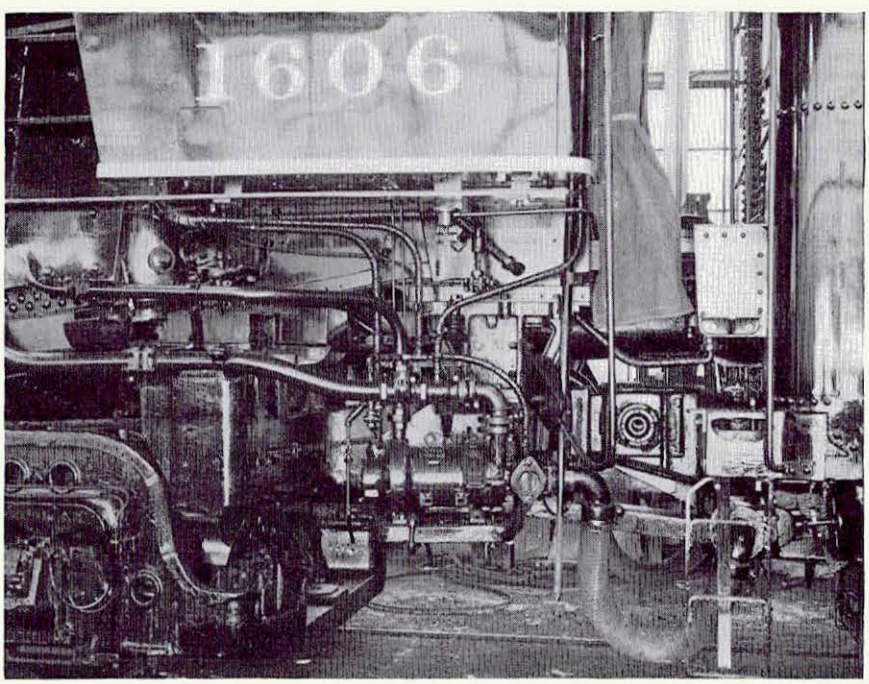
In the counterbalancing of these locomotives 41.7 per cent of the weight of the reciprocating parts—2,152 lb. for each cylinder on each side—is balanced. There is an overbalance of 286 lb, 304 lb. and 309 lb. at the front, intermediate and main wheels respectively, of each engine unit. The dynamic augment at diameter speed is 16,380 lb.

The spring rigging is of conventional design. On the front engine it is continuous from the engine truck to the main driver; on the rear engine it is continuous on each side from the front driver to the rear trailer wheel. Coil buffer springs are used in the anchor hangers of the rear engine. Ex-Cello-O bushings are used throughout the spring rigging; the pins are not lubricated.

Steam Distribution System

Steam is taken from the superheater header through pipes inside the smokebox to outside pipes located on each side of the boiler. Through these outside pipes the rear cylinders are supplied. At the rear cylinders the steam supply is divided, half going to the cylinders and the remainder passing through a Y-pipe to the intermediate receiver pipe which is supported from the front engine bed. The receiver pipe passes through the front cylinders to another Y-pipe, by means of which delivery to the front engine cylinders is effected. Three expansion joints are used, one in each of the right and left outside steam pipes to the rear engine cylinders and one in the receiver pipe at the front engine cylinders. They are so designed that the surfaces bearing against the packing are separated by an open air space from the steam-containing walls of the joint. The receiver pipe is fitted with a ball joint at the rear engine cylinders.

The exhaust-pipe arrangement is similar to that used by the C. & O. on its Class H-7a articulated locomotives. The cylinders of the rear engine exhaust through separate pipes on the right and left side to the rear exhaust stand where the steam from both cylinders passes through the same nozzle. The front engine cylinders exhaust into a Y-pipe and then through a single pipe to the front exhaust stand. The nozzles have 7-in. openings with ½-in. square cross-bridges. Separate ex-



The Cold-Water Pump for the Feedwater Heater and the Engine-Tender Connections

haust pipes, with suitable ball and expansion joints, supply steam to the feedwater heater.

The steam and exhaust piping is fitted with Tube-Turn welded flanged fittings. In fabricating the piping templates were made as a result of which the entire piping system, with the flanged fittings, was assembled without need for alteration. High-tensile-steel bolts were used in the flanged fittings. Garlock packing was used in all the ball and expansion joints of the steam and exhaust system.

Two Nathan Type DV-7, 36-pint mechanical lubricators are located on the left side of the locomotive and furnish engine oil to the valve-rod crosshead guides, engine-truck center pin and pedestal faces, all driving-box pedestal faces, articulation hinge pin, furnace and boiler bearing shoes, radial buffer, and trailing truck hub and pedestal faces. Two Detroit 32-pint, Model B lubricators on the right side supply valve oil to the steampipe joints, cylinders, guides, exhaust-pipe joints, feedwater-heater pumps, air compressors and stoker engine. The terminal checks of the feed lines to the latter two auxiliaries are connected to Edna automatic lubricators for stand-by lubrication.

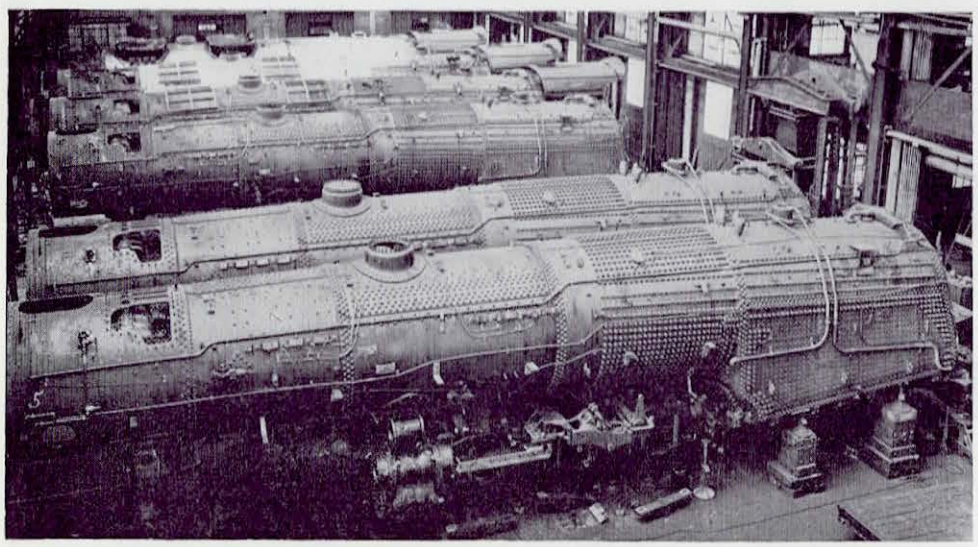
Alemite soft grease fittings are used on the ash-pan dump shaft, brake-hanger pins, brake-cylinder levers, driving-box inside flanges, lateral-cushioning devices, engine and trailing truck rockers, trailing-truck radius-bar seat, valve gear, reverse gear and reach rods, reverse-shaft bearings, rod knuckle pins, throttle rigging, valve-rod crosshead pins, stoker gear case, tender-truck swing-hanger pins, intermediate steam pipe, front engine exhaust pipe and feedwater-heater front exhaust pipe expansion joints. Alemite hard grease fittings are applied on the main crank pins, crosshead wrist pins, back ends of the eccentric rods and on the main and side rods. The reverse-shaft reach-rod crosshead arrangement between the front and rear engines is lubricated by manually filled oil cups. The driving-axle roller bearings are oil lubricated by means of housing reservoirs.

The Cab, Brake Equipment and Draft Gear

The cab is of all-welded construction, fitted with brass window sash and safety glass set in rubber. The windshields and clear-vision windows are also fitted with safety glass. The cab and deck are supported by cast steel brackets mounted on the frame cradle with expansion shoes under the rear of the cab and by the back furnace-bearer shoes at the front of the cab so that they are free to move with the boiler. Alemite lubrication is used on the sliding shoes. The cab is unusually roomy and the arrangement of all controls, gages, etc., is such as to contribute to easy and safe handling.

In addition to the driver brakes there is also single-shoe brakes on the rear trailer wheels operated by cylinders on the outside of the truck frame. The locomotive equipment is the Westinghouse No. 8 ET, with pedestal-type cab brake valves and two 8½-in. No. 150-D compressors located on the smoke box front. The compressors are operated by saturated steam and exhaust to the rear of the stack.

The locomotives are equipped with General Steel Castings Corporation's cast-steel pilot; Symington-Gould Type E coupler; Franklin Type E-2 radial buffer; Pyle-National headlight and classification lamp equipment, including headlight generator; Barco flexible connections between engine and tender as well as on air pumps and aftercooler, power reverse gear, blow-off-cock muffler and headlight generator. Byers extra-heavy wrought iron piping is used on engine and tender. Two sand boxes, with Viloco sander equipment, are used, one for each engine.

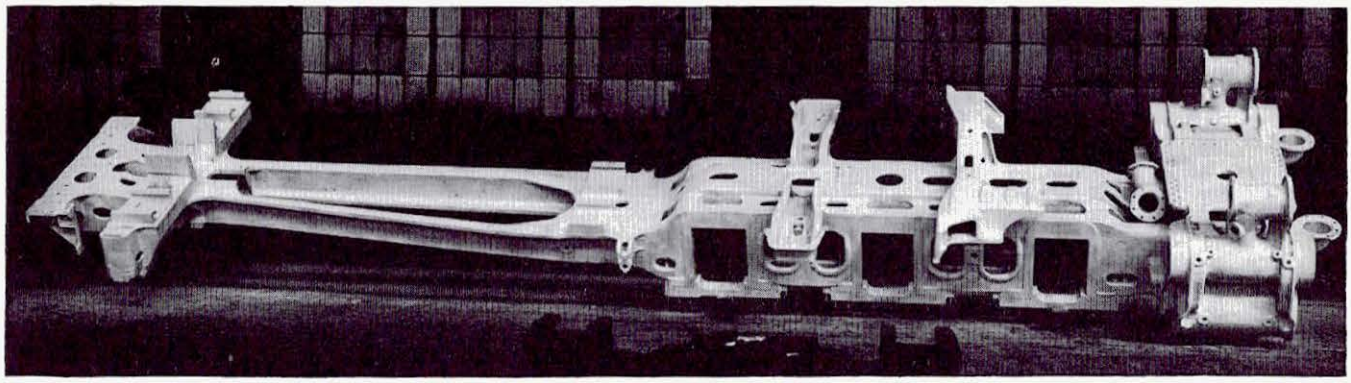


A Group of Five of the Locomotives Under Construction in the Erecting Shop of the Builder's Plant

The Tenders

The tenders are the rectangular U type with a fuel capacity of 25 tons and 25,000 gal. of water. The tender frame, supplied by General Steel Castings Corporation, is a one-piece water bottom steel casting. The tender tank is of the riveted type. The tank plates are of carbon steel, the outside plates being 5/16 in., the top plates 3/8 in. and the slope plates 3/8 in.

The front tender trucks are the six-wheel type and the rear trucks are the eight-wheel type. Seven of the ten tenders are equipped with trucks furnished by the Buckeye Steel Castings Corporation and three are equipped with General Steel Castings Corporation trucks. The six-wheel trucks have 7-in. by 14-in. journals and the eight-wheel trucks have 6½-in. by 12-in. journals. All journals have plain bearings, with brasses furnished by Magnus. The trucks are equipped with A. S. F. clasp brakes with a braking ratio of 70 per cent of the light weight at 50 lb. brake cylinder pressure. The brake rigging is designed for 100 lb. cylinder pressure.



One of the Cast-Steel Beds for the Rear Engine Unit

The tank plates were supplied by Carnegie-Illinois and Republic Steel; the truck axles by Carnegie-Illinois and the tender-truck wheel by Armco. The tender draft gear is Miner A-22-XB with Buckeye Type E couplers and yokes. Cardwell-Westinghouse snubber springs are used on all trucks.

Partial List of Materials and Equipment on the Lima-Built 2-6-6-6 Type Locomotives for the Chesapeake & Ohio

Bed frames; bumper; pilots; engine and trailer trucks	General Steel Castings Corp., Eddystone, Pa.
Engine bed bushings	Ex-Cell-O Corporation, Detroit, Mich.
Driving axles—engine and trailer truck	Carnegie-Illinois Steel Corp., Pittsburgh, Pa.
Semi-elliptic and coil spring	Pittsburgh Spring & Steel Co., Pittsburgh, Pa.
Trailer-truck lateral centering device	The Timken Roller Bearing Co., Canton, Ohio
Lateral motion devices	American Locomotive Co., New York
Radial buffers	Franklin Railway Supply Co., Inc., New York
Drawbars; safety bars; drawbar pins	Ewald Iron Co., Louisville, Ky.
Wheels—engine and trailer truck	American Rolling Mill Co., Middletown, Ohio
Wheel centers	Lima Locomotive Works, Inc., Lima, Ohio
Tires	American Locomotive Co., Railway Steel Spring Division, New York
Journal-box lids—trailer truck	National Malleable and Steel Castings Co., Cleveland, Ohio
Coupler, pilot	Symington-Gould Corp., Rochester, N. Y.
Uncoupling rigging	Standard Railway Equipment Company, Chicago
Draft gear	W. H. Miner, Inc., Chicago
Air brakes; air-compressor aftercooler	Westinghouse Air Brake Co., Wilmerding, Pa.
Brake shoes; brake-shoe keys	American Brake Shoe & Foundry Co., New York
Foundation driving brake	American Brake Company, St. Louis, Mo.
Cylinder and boiler lagging	Johns-Manville Sales Corp., New York
Cylinder and boiler jacket	American Rolling Mill Co., Middletown, Ohio
Piston-rod and valve-stem packing	T-Z Railway Equipment Co., Chicago
Duplex combination (bronze and iron) cylinder and valve-packing rings; cylinder and piston-valve bushings; valve-chamber bushings; main rod floating bushings; piston-rod packing rings	Hunt-Spiller Manufacturing Corporation, Boston, Mass.
Cylinder-cock operating valves	The Okadee Company, Chicago
Main-rod floating bushings; rod bushings; rod brasses	Magnus Metal Div., National Lead Co., New York
Valve gear	Pilliod Company, New York
Reverse gear	American Locomotive Co., New York
Crossheads	Ohio Steel Foundry Co., Lima, Ohio
Mechanical lubricator, dividers and terminal checks for engine oil	Nathan Manufacturing Co., New York
Mechanical lubricator and terminal checks for valve oil	Detroit Lubricator Co., Detroit, Mich.
Grease fittings	The Prime Manufacturing Co., Milwaukee, Wis.
Boiler and firebox plates	Lukens Steel Co., Coatesville, Pa. Otis Steel Company, Cleveland, Ohio
Arch brick	General Refractories Company, Philadelphia, Pa.
Tubes and flues	(2) Globe Steel Tubes Co., Milwaukee, Wis. (5) National Tube Co., Pittsburgh, Pa. (3) Steel and Tubes, Inc., Cleveland, Ohio
Syphons	Locomotive Firebox Co., Chicago
Smokebox hinges	The Okadee Company, Chicago
Staybolts—rigid	American Locomotive Co., New York
Staybolt iron	Ewald Iron Co., Louisville, Ky.
Flexible staybolts; expansion stays	Flannery Bolt Co., Bridgeville, Pa.
Flexible staybolt material	(7) Old Dominion Iron & Steel Works, Inc., Richmond, Va. (3) Joseph T. Ryerson & Son, Inc., Chicago
Boiler and firebox rivets	The Champion Rivet Co., Cleveland, Ohio
Steam and exhaust-pipe welded fittings	Tube-Turns, Incorporated, Louisville, Ky.
Steam and exhaust pipe packing	The Garlock Packing Co., Palmyra, N. Y.
Throttle	American Throttle Co., New York
Piping	A. M. Byers Co., Pittsburgh, Pa.
Pipe covering	Union Asbestos & Rubber Co., Chicago
Superheater	The Superheater Company, New York
Stoker	Standard Stoker Co., Inc., New York
Grates	Waugh Equipment Co., New York
Fire door	Franklin Railway Supply Co., Inc., New York
Feedwater heater	Worthington Pump & Machinery Corp., Harrison, N. J.
Injectors	Nathan Manufacturing Co., New York
Blow-off cocks	T-Z Railway Equipment Co., Chicago
Blow-off muffler	Wilson Engineering Corp., Chicago
Washout plugs	American Locomotive Co., New York Huron Mfg. Co., Detroit, Mich.
Drain cocks; cylinder cocks	Barco Manufacturing Co., Chicago The Okadee Company, Chicago
Turret valves; injector check valves; boiler checks	Nathan Manufacturing Co., New York
Valves—blower, stoker engine and feed pump throttle	The Lunkenheimer Company, Cincinnati, Ohio
Valves—superheat lines	Walworth Company, New York
Valves—globe and angle	Crane Co., Chicago
Feed-pipe strainer	The Okadee Company, Chicago
Suction hose	Hewitt Rubber Corp., Buffalo, N. Y.
Sander equipment	Viloco Railway Equipment Co., Chicago
Whistle	Nathan Manufacturing Co., New York
Whistle-operating valve	Viloco Railway Equipment Co., Chicago
Low-water alarm	Nathan Manufacturing Co., New York
Cab-window sash	The O. M. Edwards Co., Inc., Syracuse, N. Y.
Cab windshields; clear-vision windows	The Prime Manufacturing Co., Milwaukee, Wis.
Cab seat cushions	United States Rubber Co., New York
Metal cab seats	Van Dorn Iron Works, Cleveland, Ohio
Running boards; cab deck	Alan Wood Steel Co., Conshohocken, Pa.
Flexible connections between engine and tender; air reservoir, air-compressor, power reverse gear, blow-off cock muffler, generator, aftercooler, and blower connections	Barco Manufacturing Co., Chicago
Headlight and headlight generator; classification and back-up lamps	The Pyle-National Company, Chicago
Tender:	
Frame	General Steel Castings Co., Eddystone, Pa.
Trucks, front:	
Six-wheel	(7) Buckeye Steel Castings Co., Columbus, Ohio (3) General Steel Castings Co., Eddystone, Pa.
Eight-wheel	(7) Buckeye Steel Castings Co., Columbus, Ohio (3) General Steel Castings Co., Eddystone, Pa.
Wheels	American Rolling Mill Co., Middletown, Ohio
Axles	Carnegie-Illinois Steel Corp., Pittsburgh, Pa.
Journal-box lids	National Malleable and Steel Castings Co., Cleveland, Ohio
Truck snubber springs	Cardwell Westinghouse Co., Chicago
Clasp brakes	American Steel Foundries, Chicago
Bearings	Magnus Metal Div., National Lead Co., New York
Bearings and wedges	Standard Forgings Corp., Chicago
Couplers	Buckeye Steel Castings Co., Columbus, Ohio
Tank plates	(6) Carnegie-Illinois Steel Corp., Pittsburgh, Pa. (4) Republic Steel Corp., Massillon, Ohio
Tank valves	Wm. Powell Co., Cincinnati, Ohio
Paint	E. I. du Pont de Nemours & Co., Wilmington, Del.

$203,000,000 Rate Rise Authorized

Deciding the Ex Parte 148 case, I. C. C. gives roads about 60 per cent of additional freight revenues sought

WASHINGTON, D. C.

INCREASED freight rates and charges calculated to yield the railroads approximately $203,000,000 additional revenue per year have been authorized by the Interstate Commerce Commission in its report in the Ex Parte No. 148 proceeding which was made public on March 2. Because the increases "grow out of the emergency caused by the war," the commission stipulated that the authorization to make them "shall expire six months after the termination of the present war"—unless sooner modified or terminated "in further proceedings herein or in other proceedings."

The $203,000,000 estimate was given in a notice accompanying the decision which was issued by I. C. C. Secretary W. P. Bartel; it was made by the commission's staff on the basis of 1941 traffic, and it does not include the estimated $46,000,000 a year yield from the 10 per cent increase in passenger fares which became effective February 10. The increases sought in the railroad petition would have yielded on the 1941 traffic basis an estimated $314,000,000, excluding the passenger-fare adjustment. However, Secretary Bartel noted that "If passenger business increases 10 per cent in volume in 1942, as is reasonable to expect, the passenger fare increase will be near to $50,000,000. A like increase in freight traffic would bring the increases approved on freight rates and charges to about $225,000,000, or a total from freight and passenger traffic of about $275,000,000 per annum."

Six Per Cent Increase—With Exceptions

On freight rates and accessorial charges the railroads sought a uniform increase of 10 per cent, except in the rates on coal, coke, and iron ore, where the proposed increases were in cents per 100 lb. The increase approved by the commission is in general six per cent upon all commodities except certain "basic or raw" commodities, which are products of agriculture, live stock and products, and low-grade products of mines, such as sand, gravel, broken rock and slag. As to these the increase approved is three per cent. On anthracite and bituminous coal, coke of all kinds, and lignite, specific increases are approved, dependent upon the amount of the present rate: When $1 or less, three cents per net ton and four cents per gross ton; when over $1, five and six cents per net or gross ton, respectively. No increase is approved on iron ore. Accessorial charges, so far as involved, may be increased six per cent, except certain charges on coal and ore at tidewater and lake docks. The decision grants the necessary relief and modifies outstanding orders to permit the publication of tariffs making the authorized rates effective on 10 days notice.

Intervening water carriers were authorized to make like increases. Motor carrier rates were not in issue in the proceeding, but the commission pointed out that American Trucking Associations, Inc., nevertheless "submitted evidence in support of the railroads' petition, and indicated that the motor carriers represented by it would seek increases similar to those that may be authorized for applicant railroads." A. T. A. was expected to follow through in that connection before the end of this week.

The present report includes a brief discussion of the passenger-fare phase of the proceeding which was decided in an order issued January 21, as noted in the *Railway Age* of January 24, page 272. The findings made in that order "are here renewed and affirmed." Leading up to that conclusion the commission, among other observations, said: "Because of the abnormal conditions which now prevail throughout the country we are of the opinion that the increased fares proposed will yield substantial amounts of additional revenues, and that the passenger service justly and reasonably should contribute to meeting the added operating costs of the railroads."

Five Concurring Expressions

There were no dissents to the majority report, but "concurring" remarks came from five commissioners, while a sixth noted his agreement with one of these separate expressions. Chairman Eastman, on leave as director of the Office of Defense Transportation, did not participate. Among the "concurring" members were Commissioners Mahaffie, Miller and Patterson who said they would have granted larger increases, and complained about the duration-of-the-war time limit on the increases authorized. As Mr. Mahaffie put it, "wages are not on a temporary basis." After he had set forth his views in favor of a more liberal disposition of the freight-rate application, however, Mr. Mahaffie went on to discuss the effect of free-transportation policies on railroad passenger revenues. He voted for the fare increase "largely because of the present emergency"; but it seems to him "somewhat doubtful if any increase in the price charged those paying for passenger service is justified so long as the carriers voluntarily continue to transport without charge a considerable proportion of their passenger traffic."

The majority report and the concurring expressions comprise a document of 52 mimeographed sheets. The commission opens with brief reference to the railroad petition filed on December 13, 1941, and to the hearings at St. Louis during January. It is also noted that a majority of the cooperating committee of state commissioners who participated in the proceeding "are in general accord with the conclusions expressed herein." Next there is a highlight review of the 1941 wage proceedings culminating in the mediation settlement early in December. The railroad petition, as the commission points out, put the cost of that settlement at $311,711,000 a year; and it anticipated that other wage adjustments would amount to $20,000,000 a year more. Also, it cited other prospective increases in costs resulting from ris-

ing prices of materials, precautionary measures to safeguard railroad property and operations, and calls for special and unusual services in connection with the transportation of troops and war materials.

No Issue of "Fair Return"

While it received evidence in that connection from its Bureau of Valuation, the commission did not deem it necessary "to enter into a discussion of the value of the common-carrier property of the petitioners." The proceeding, it explained, "has not taken on the aspects of a 'fair return' case"; it is "a revenue case, not a rate case." Looking over the financial evidence, the commission discounted the carrier estimates a bit, but nevertheless found it "clear that some $300,000,000 has been added to the operating expenses of the Class I railroads for a year like 1941 because of the advance in wages." With respect to efficiency and economy of operations, "we have a showing over a series of years of increased capacity of equipment and freight trains, of larger numbers of gross ton-miles per train-hour and per ton of fuel consumed, and of reduction in expenses per ton-mile."

From the traffic evidence, the commission cited testimony to the effect that the proposed increases would have no unfavorable effect upon the volume of traffic. It was conceded that some traffic may be diverted, "but not as great an amount as was lost after the general increases of four years ago under dissimilar conditions."

"The railroads," the commission went on at this point, "are endeavoring to enlarge their facilities and supply of locomotives and cars, in order to meet the swelling volume of traffic developing from the emergency. This program entails heavy expenditures. In order to function efficiently, and to meet the rising and new costs imposed upon them by war conditions, the railroads say that they should be permitted to earn revenues adequate for those purposes, so that they may continue to perform their share of the country's requirements in the present crisis. To this general statement little or no exception was taken by anyone during the course of the hearing. Compare section 15a(1) and the National Transportation Policy."

Shipper Groups Recognized Carrier Revenue Needs

The summary of the railroad evidence was followed by similar reviews of presentations made by terminal railroads, water carriers, institutional investors and the aforementioned position of American Trucking Associations. Also, the commission noted that "numerous producers, manufacturers and representatives of industrial and commercial organizations throughout the country presented testimony and endorsed in principle the claim of the rail carriers as to the urgent necessity for increased revenues." Meanwhile, "a large part" of protestants' testimony "was directed to the question which has been encountered in virtually every preceding general increased-rate case, whether the additional revenue sought shall be obtained by the imposition of a percentage or varying percentages upon traffic generally, or shall be derived by means of the addition of 'flat' or certain amounts to the going rates." In this connection the commission has "never attempted to lay down a rule, but our decisions have been adjusted to meet the needs of commerce and industry and to preserve the rights of the parties as we saw them in particular proceedings."

Participating government departments included the Office of Price Administration which took no position with regard to the general increases sought; its interest is in rates on individual commodities. The commission said that, followng discussions with OPA, the Class I roads have undertaken to set up a committee of traffic executives, for the purpose of considering and passing upon requests by shippers, and by state and federal governmental bodies, for rate adjustments "necessitated by present or changed conditions." The Bituminous Coal Consumers' Counsel "disclaimed intention to take any position for or against the proposed increases as a whole;" he expressed "general approval of several of the proposals and called attention to some matters of public interest particularly affecting the coal rates." The position of the Secretary of Agriculture was "that a general increase . . . should be allowed, but that an increase of 10 per cent is unnecessarily large, and that agricultural commodities, including livestock, products thereof, and canned foods, either should be subjected to no increase, or at least that such increases should be less than authorized on other traffic." It was conceded that prices of agricultural commodities "rose sharply during 1941," but hope was expressed that "this will not be accepted as an indication that agriculture can absorb increased costs of transporting and marketing its products."

Why Iron-Ore Increase Was Denied

After further discussion of the general evidence with respect to products of agriculture, the commission proceeded to consider the evidence relating to grain and grain products, fresh fruits and vegetables, cotton, and other agricultural products. Then in turn came sections of the report devoted to discussions of other commodity groups—Animals and Products, Products of Mines, Products of Forests, and Miscellaneous. In its Products-of-Mines discussion the commission set forth considerations which led it to refuse to authorize any increase in iron ore rates. It pointed out that much of the iron-ore traffic is carried by the Duluth, Missabe & Iron Range, and by the Lake Superior & Ishpeming—"both controlled by iron-ore producers." In the 10 years ended with 1940, the former "paid dividends to its shipper stockholders averaging about 20 per cent a year;" while the L. S. & I. "after a stock dividend of 200 per cent in 1927, paid dividends averaging 17.05 per cent a year."

"About 83 per cent of the total increased revenue from iron ore," the commission went on, "would go to the shipper-controlled railroads, and to the Great Northern, assuming no change in the origin of the tonnage. The remainder of about 17 per cent would be divided between five other carriers." Earlier the commission had said that "many of the principal bituminous coal-carrying roads are among the most prosperous in the country, and protestants urge that these roads are not in need of additional revenues." The ore and bituminous roads were finally polished off in the report's "Conclusions and Findings" section as follows:

> It would be desirable, if feasible, to consider the needs of the railroads individually, and to adjust their respective schedules to meet their respective needs. The exigencies of the case do not permit such refinement. Further, the weak and strong lines are interlaced and in keen competition, and necessarily the rate structure must be uniform, otherwise the strong road with a lower rate system will attract the competitive traffic and eliminate the weaker line. However, as to certain important commodities it happens that the rate structure is such that the relative strength or weakness of the most important rail carriers involved can be reflected in the rates on the commodities involved. Where the evidence justifies such action, they can receive special treatment, and thereby mitigate the disturbances and inequalities

which would follow the imposition of a uniform percentage increase.

It clearly appears that with respect to two general groups of important commodities, the carriers which have such commodities in largest proportion as back-log tonnage are relatively strong. These commodities are bituminous coal and iron ore. In fact the railway petitioners differentiate between those two commodities, and propose increases in specified amounts, rather than by percentages. The principal carriers of bituminous coal and iron ore are among the most prosperous in the country. Coke, by whatever process and from whatever material produced, and anthracite, are keenly competitive substitutes for bituminous coal, move largely over the same carriers, and have the same general traffic characteristics. They may be appropriately considered apart from other commodities, and grouped for rate treatment with bituminous coal. Except for certain kinds of coke, the carriers' petition so treats them. Lignite may be grouped with bituminous coal.

The close relationship between iron ore and bituminous coal, and coke, at once sets these commodities off as basic commodities in the enormously important and vast iron and steel trade.

Considering the financial situation of the principal coal and ore-carrying roads, the existing level of charges upon those commodities, the degree of profitableness upon the individual movements thereof, the effect upon the national defense of cumulated increases in production costs of manufactured products, and the use of fuel as a primary necessity of life, we conclude that no increases should be allowed on iron ore, not ground, including iron sinter, and that the increases authorized upon bituminous coal, coke of every kind, anthracite, and lignite, should not exceed those hereinafter stated.

"Hoch-Smith Resolution Still Is The Law"

Coming to its conclusions with respect to agricultural products, including livestock, the commission found that the situation as to the relative strength of the granger roads, and those properly treated as principally agricultural lines, "is the reverse from that of the principal bituminous coal and iron ore carrying lines in general." In other words, the agricultural lines "are relatively weak," and their present revenues have "no such cushion" as the coal and ore roads against the wage and other cost increases. But the commission had to consider the "unfavorable economic condition of the farm industry that has prevailed for many years;" and Congress' expressed intent that products of agriculture shall be afforded the lowest possible lawful transportation rates—"The Hoch-Smith Resolution still is the law." Thus the commission concluded that: "Considering the factors involved, it seems just and reasonable to permit the going rates on agricultural products and livestock to be increased by a lesser percentage than non-basic commodities generally. To avoid disruption of the relation between live and dressed animals, and because the products are necessary foodstuffs, certain products of animals will be treated in the same manner as livestock."

Next, the commission set forth its findings as summarized above. "The record," the report said, "will be held open for the purpose of giving consideration to any necessary readjustments or corrections which the circumstances may warrant, if brought to attention in the manner prescribed in our rules of practice. The commission will give any possible aid to the informal adjustment of any matters arising hereunder, if its aid is deemed helpful."

A Plug for Land-Grant Repeal

Meanwhile the commission's concluding remarks had summarized its appraisal of the evidence relating to the revenue effect of the proposed increases, finding it "clear that the need for increased earnings which the petitioners predicated upon the traffic volume of 1941 is subject to some discount on account of the prospect for a further growth in traffic and the consequent greater net earnings in 1942." To the suggestion of some of the protestants that a considerable part of the increased railway costs could be offset if land-grant rates were waived, the commission made this answer:

The waiver of the land-grant privilege can come only from Congress. By the Transportation Act of 1940, Congress evinced an interest to restrict this privilege, but it left the law in the condition as to which both shippers and railroads complain. We have long felt the imposition of land-grand deductions was unfair, and that the main objective of the original grants long ago had been met so thoroughly that now it is equitable that the government should pay the same reasonable rates for its transportation that its citizens do. But until Congress acts favorably no part of the increased costs can be recouped by the suggested method. In fact, it seems likely that the land-grant deductions will continue and will even increase in the aggregate in the immediate future, unless certain pending legislative proposals for repeal are given favorable consideration by Congress, through an expedited parliamentary procedure.

As noted in the *Railway Age* of February 28, page 449, the commission made a presentation in favor of repealing the remaining provisions of the land-grant-rate law at the House committee on interstate and foreign commerce's recent hearing on the repealer introduced by Chairman Lea of that committee.

First of the concurring expressions came from Acting Chairman Aitchison, and Commissioner Alldredge subscribed to it. Mr. Aitchison said that while he concurred in the majority findings he nevertheless regards scrap iron and steel and pig iron as similar to iron ore, "and of such importance to the national economy at the present time that no increase should be made thereon." Also he would have favored imposing upon the lower grade products of lumber no higher increase than the three per cent imposed upon the low-grade products of mines. Finally, he would have limited the amount of the increase on the commodities taking the three per cent increase, and the lower grade forest products, to a maximum of three cents per 100 lb.

Mahaffie Would Have Given More

As indicated above, Commissioner Mahaffie regretted "that a majority of the commission could not see its way clear to make larger increases;" and he thinks that it was a mistake to make the increases temporary. Spelling out his reasons for these views, Mr. Mahaffie had this to say:

The railroads seek permission to try to recoup from rates and charges approximately the amount of the increased wages they are required to pay. They are also confronted with mounting costs of materials and supplies. The report allows increases that can reasonably be expected to meet only a part of the rise in wages. Nothing is provided for the other inevitable increases in expenses. Transportation by railroad is a vital factor in our war effort. To maintain it so that it may function effectively requires adequate revenues. Its failure might well be disastrous. New transportation facilities must be provided as war needs indicate. To a large extent, the country is relying on the railroads to provide them. The civilian population is increasingly dependent on common carrier transportation to meet its requirements both for passenger and freight service. It will suffer vastly more from any failure of those facilities than it would from a 10 per cent increase in the charges it must pay. A car or power shortage, even for a brief period, would cost the shippers of the country many times the amount saved them by the whittling down of the amounts here sought. All the members of the commission, I am sure, realize these facts but, so far as freight traffic is concerned, we as a body are failing to act in accord with them.

I do not believe we can safely rely on the expected increase in shipments to make up in net revenue for the meager increases

presently permitted. This reliance seems to me more of a gamble than present circumstances permit. It should be remembered than increased traffic beyond a certain point does not necessarily result in increased net revenue. Furthermore, additional traffic in war time may have to be handled in a way that greatly increases expenses. Consequently, any operating ratio practicable of attainment in peace time may, with the same volume of traffic, be much greater under war conditions. This indicates the danger, as I see it, of the reasoning on which the report is based. In my judgment, increases in freight rates calculated much more nearly to produce the amounts sought should be permitted at this time. Perhaps our failure more adequately to meet the requirements of the situation is less serious than otherwise it might be by reason of the case being held open. Apparently there is a possibility that revision can be promptly effected. . . . This ought to be helpful.

Hits Free-Transportation Practices

Meanwhile, Mr. Mahaffie is confident that the carriers can help themselves by appropriate voluntary action. For example, he said that the minimum weights applicable to a great deal of carload freight could well be revised so as more nearly to represent the practicable loading capacities of equipment. Then came Mr. Mahaffie's discussion of free transportation, opening with the suggestion that abolition "would be of real benefit to revenues." Citing passages from the report on free transportation in 1937, made public by the Bureau of Statistics in March, 1938, he asserted that he has seen nothing "to indicate that this waste has been much curtailed." The usual argument that it costs little to carry deadheads on trains which must be run anyhow, Mr. Mahaffie said, is not sound at present when passenger facilities are not redundant. In his opinion if a railroad finds it necessary to send a man on a trip over another railroad, it should pay his fare. He pointed out that the law permits, but does not require, certain free transportation, adding that "whether it be restricted or eliminated is primarily a problem of railroad policy."

"Furnishing railroad passenger service costs money," Mr. Mahaffie concluded. "Those paying rates and fares are necessarily required to provide revenues sufficient to maintain the service. To the extent it is provided for some persons without charge, the sums exacted from others obviously must be increased. Before any further increase in fares is authorized, the railroads in my judgment, should undertake to collect for their passenger service from all persons using it."

Commissioner Miller concurred in the majority findings in so far as they permit increases in rates. His objection "goes to the limited extent of the increases allowed." In his opinion the carriers had justified substantially all of the increases sought; and he did not agree on the time limit, "as there is no such limitation in connection with the wage increase." Commissioner Patterson would have preferred to have had a uniform increase in all freight rates. As long as exceptions were being made, however, he would have authorized no increase in farm-to-market rates on grain, including the rates from producing areas to markets on the Pacific Coast and the Gulf of Mexico. Also, Mr. Patterson noted his agreement with Commissioner Mahaffie, except with what the latter had to say about free transportation. It is his view that free transportation "should not be taken from bona fide railroad employees or their families, since this transportation has always been regarded as part of their compensation."

Commissioner Johnson was "in no serious disagreement" with the result of the majority decision. He did, however, disagree with the method employed for providing increased revenue. He favored "a method that would decrease, not increase, the differentials now in effect in the various rated territories;" and if such an increase were too complex and time consuming, he would favor a uniform percentage increase, which "would place as it should greater increases on the higher rates, classes and commodities. Coal and iron ore might justifiably receive special consideration and treatment." Under the method adopted in the majority report, Mr. Johnson agreed with the expression of Acting Chairman Aitchison.

New Skid Saves Metal

INCREASING limitations on the use of iron and steel for non-defense work has led the Yale & Towne Mfg. Company to design a platform or skid for warehouse service that requires very little metal in its construction. This skid has what is called a Timber-Lock construction, consisting of a deck of oak planks which

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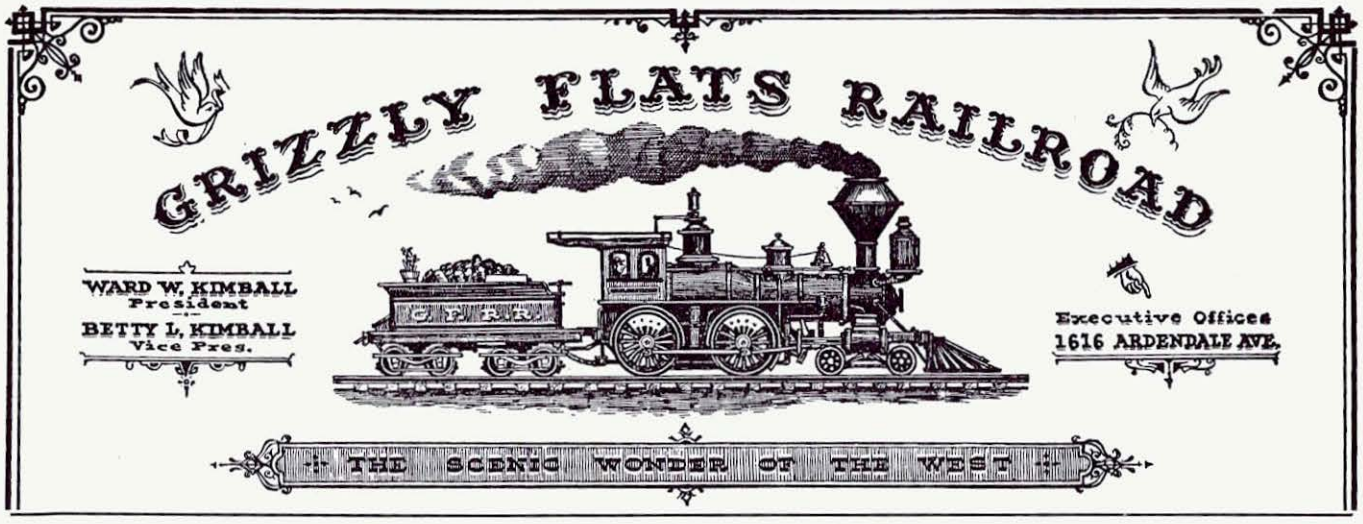


This Is the Present-Day Letter Head of the Grizzly Flats Railroad

This 500-ft. railroad of 3-ft. gage owns two locomotives formerly operated on the Nevada Central. It is run by railroad fans. Its president created the engine "Casey, Jr." for Walt Disney's "Dumbo".

Yale Skid with Timber-Lock Construction

are mortised on the underside near each end and tightly fitted over two oak sills. Four legs of strap steel are bolted to the sills and the planks are fastened to the sills by spiralled nails. The nails and legs and the bolts and nuts which hold the legs to the frame are the only metal in the construction, and the mortised fit of the oak deck on the sills, as well as the sturdy quality of the oak used, gives the skid all the stiffness and service life ordinarily required in material handling in freight houses and storehouses where exposure to weather and extreme abuse are not encountered. These skids are made in all standard lengths, with or without armored ends and can be fitted with six legs.

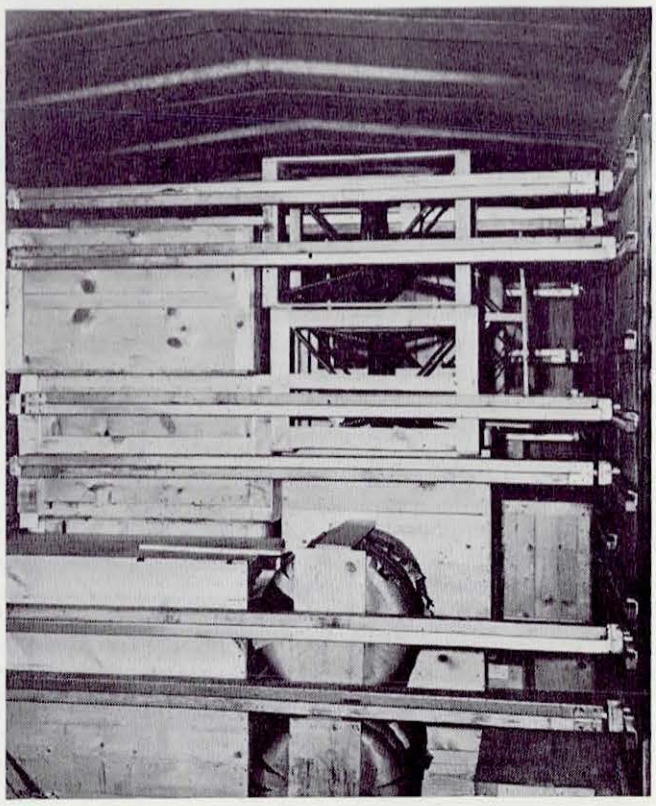
Unitloader Used in Moving War Products

THE Unitloader, developed by the Evans Products Company, Detroit, Mich., to promote increased safety and efficiency in the loading of box cars, as described in the *Railway Age* of July 12, 1941, is now being successfully used for the movement of war products as well as civilian goods. Test loads have indicated its applicability to universal loading and this device is now being used in the transportation of shells, bombs and airplane parts, as shown in the illustrations.

The first of a fleet of 35 new box cars, in which the Unitloader was installed as permanent equipment, have been placed in service on the Missouri Pacific for the shipment of war materials and civilian necessities. The Union Pacific and the Pere Marquette have also operated Unitloader-equipped cars with more than 50 test loads in commercial revenue service in which it is said that 98 per cent of all damage has been eliminated.

In the loading of shells at army arsenals, time studies indicate that 25 per cent of the loading time is saved and the cost reduced approximately 50 per cent. In line with the new war economy, the Unitloader eliminates dunnage, that is, lumber, paper, band-iron, nails, etc., now being used for the bracing and bulkheading of freight in box cars. Shipper savings on this account alone are shown by test loads to range from $50 to $150 per car load.

The characteristics of the Unitloader in increasing car capacity is demonstrated by one of the illustrations, which shows the loading of airplane parts. These parts, normally requiring a full car when shipped under conventional methods, are loaded almost to the roof by means of Unitloader multiple-decks and special bracing and consequently occupy only one-half of the car, the other half being available for additional loading.



Shipment of Airplane Parts Made in a Unitloader-Equipped Box Car—Bracing Against the Loads Holds All Units Securely in Place Without Shifting

Worker Locking the Reinforced Cross-Member Tightly Against a Shipment of 155 Millimeter Shells in a Unitloader-Equipped Car at One of the U. S. Army Arsenals

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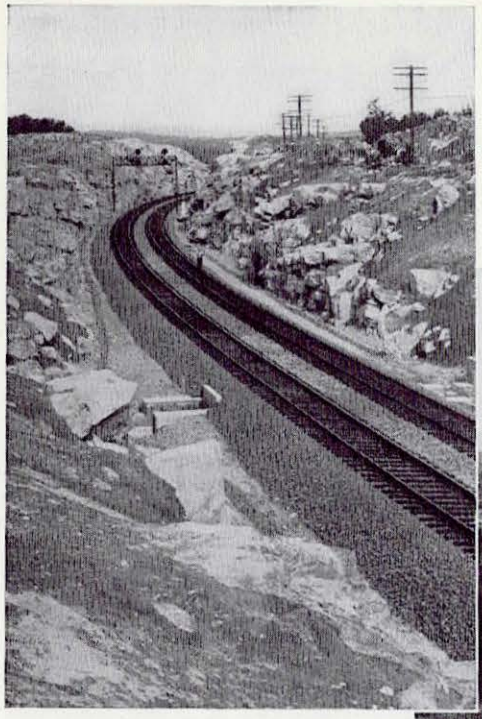
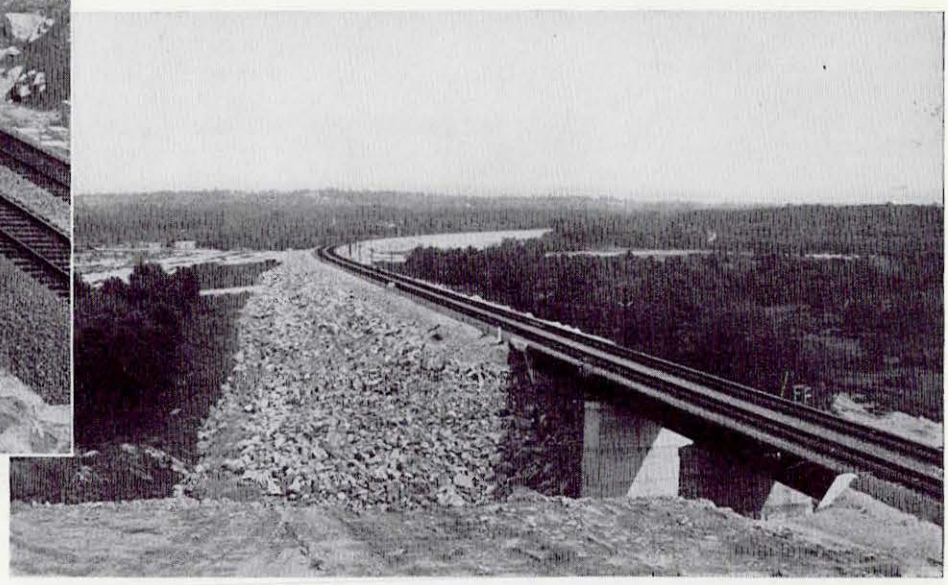
THE SOUTHERN (ENGLAND) has recently placed in service the first of a new type of electric locomotive designed by the road's chief electrical engineer for the operation of both freight and passenger services over the company's electrified lines out of London. The units will probably haul passenger trains by day and freight by night. The locomotive is carried on two 6-wheel trucks, each of the 6 axles being driven by an electric motor through single-reduction spur-gearing. A revolutionary new design for the collection of electric current from the third rail—to enable the locomotive to straddle gaps in the conductor rail at switches and interlockings—has been introduced.





Left—This View of Cut No. 1, the Largest on the Line, Is Illustrative of the Extensive Rock Excavation Required. Below—Looking Easterly Along Fill No. 1. Otter River Bridge in Foreground

Relocation Job Marked by Speed, Heavy Work, Modern Design

Shifting and raising of a section of B. & M. main line made necessary by construction of government dam in Millers river

MEASURED by the mileage of new construction involved, the relocation of a portion of the main line of the Boston & Maine at the Birch Hill reservoir in Massachusetts was not a particularly large undertaking, but gaged by practically every other consideration—heavy grading, speed of construction, modern design and methods, and unusual features—it constituted an outstanding project. Undertaken at a total cost, except land, of $1,250,000, all of which was borne by the federal government, this project required the construction of 3.40 miles of new double-track line. As one indication of the modern methods employed, it may be mentioned that trains operating over the new line were increased to full speed within 48 hr. after it was placed in service. Incidentally, measured on a per-mile basis, this is one of the most costly relocation projects that have yet been necessitated by the construction of government reservoirs, the relatively high cost being attributed to the rugged New England terrain encountered.

This project is located on the main line of the Fitchburg division of the B. & M., and was made necessary by the construction by the federal government, represented by the United States Army engineers, of the Birch Hill flood-control reservoir in the Millers river. This is a highly turbulent stream, which has a record of great destructiveness in flood stage, such as in September, 1938. It is a tributary of the Connecticut river, and the Birch Hill dam was built as part of a general scheme for the control of floods in the entire Connecticut River basin.

This dam is located a short distance east of South Royalston, Mass., at a point where the river lies generally in an east-west direction, although about 1½ miles east, or upstream, from the point where the dam is now located it swings sharply northward. At about the location of the bend in the river it is joined by the Otter river which enters from the south. The double-track main line of the B. & M. in this vicinity comes in from the southeast, crosses the Otter river not far from its confluence with the Millers river, and then follows the latter stream on its southerly side to and through South Royalston. In its original location, the railroad line was situated from one-eighth to one-quarter of a mile from the Millers river in the section upstream from the point where the dam is located.

Owing to the rugged and broken character of the topography in this vicinity, the pool that will be formed when the reservoir is filled to capacity will be irregular

in shape and relatively narrow. In the distance between the dam and the confluence with the Otter river, the width will average about a fourth of a mile. Above this point it will have two main fingers or branches, one following the valley of the Millers river and the other the

One of the Paved Intercepting Ditches. Note Drop Basin in Middle Foreground and Also in Far Background

valley of the Otter river. The reservoir will ordinarily be dry, but in times of flood, it will be able to impound over 17 billion gallons of water over an area of about 3,200 acres.

The Relocated Line

It is that section of the railroad lying along the southerly side of the Millers river upstream from the dam and extending across the valley of the Otter river that had to be raised and relocated to clear the reservoir. To this end a new location on higher ground was projected through the reservoir area on an alinement south of the original location, the maximum distance between the old and new locations being about a third of a mile. In its new location the line crosses several projections of the main body of the reservoir and also extends across the branch formed by the Otter river, which is nearly a half mile wide at the point of crossing. With a length of 3.40 miles, the relocated line is 0.23 mile shorter than the old alinement. At its westerly end, it ties in with the existing alinement at a point about a mile downstream from the dam, while at its easterly end it joins the old alinement a short distance east of the east side of the Otter River branch of the reservoir.

In establishing the grade of the relocated line, it was desired to allow a freeboard of 5 ft. between the water level and the subgrade in those sections where the line extends across or along parts of the reservoir. Since the spillway of the dam is at an elevation of 852 ft. above mean sea level, and is designed for a surcharge of 7 ft., this meant that the elevation of the subgrade would be 864 ft. To establish the subgrade at this elevation required the raising of the tracks a maximum of 35 ft. In reaching the higher elevation from the west, the relocated line ascends for about 1½ miles on grades ranging from 0.49 per cent to 0.60 per cent. At the top of this grade it reaches elevation 864, and from this point practically to the east end of the relocated line the grade is level.

In the vicinity of South Royalston, the B. & M. tracks are on a relatively heavy grade ascending eastbound, the maximum rate being about one per cent. Known as the Royalston hill, this grade is of such length as to make it necessary to maintain helper service for eastbound freight trains. When the westerly end of the relocated line was established on a grade ascending eastbound, this had the effect of extending the helper grade about a mile. As a means of partially offsetting the adverse effects of this extension, the grade of the existing line for a distance of about a mile westerly from the west end of the relocated line was reduced to a maximum of 0.76 per cent, this work being done in connection with, and as a part of, the relocation project.

Grading Was Heavy

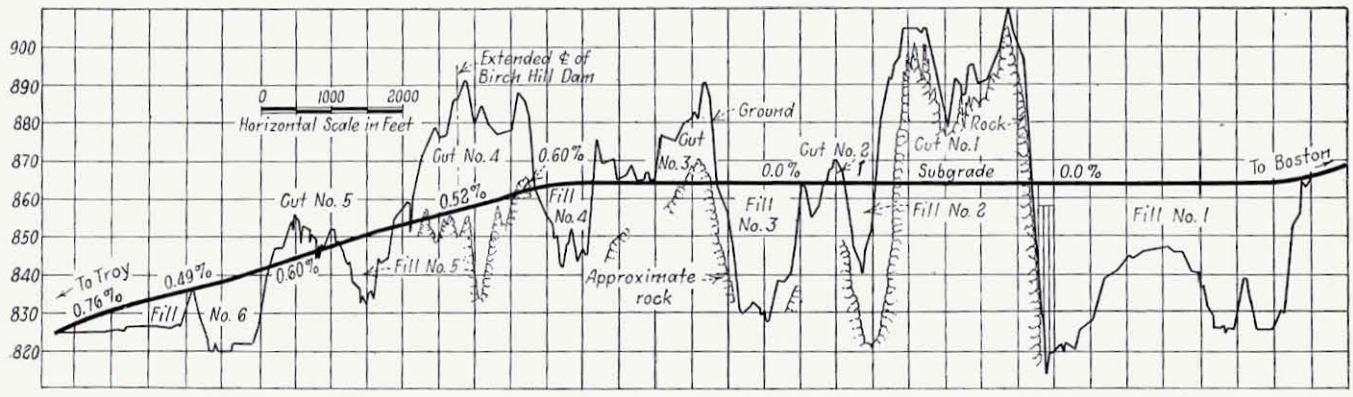
As already noted, the territory in which the relocated line is located is of a rugged nature, consisting of a succession of ridges and ravines lying roughly at right angles to the alinement. Hence the grading was heavy. To determine the nature of the subsoil conditions that would be encountered in the grading work, core borings were made by the army engineers at 250-ft. intervals along the new alinement, which were supplemented by seismic soundings to determine the inclination of the rock. It was found that the overburden consists largely of glacial till, containing many boulders, which is underlaid at varying depths by solid rock, largely granite, but also including considerable schist.

There are five cuts on the line, the largest of which is more than 2,000 ft. long and nearly 50 ft. in depth. This cut, known as No. 1, is located immediately west

This Culvert, With Dam and Spillway in Background, Was Constructed Near the Center of Cut No. 1 to Drain a Swamp

of the Otter river, where the line pierces a ridge located in the angle between the Otter and Millers rivers. The excavation of this cut alone required the removal of 180,000 cu. yd. of material, of which 100,000 cu. yd. was solid rock. Almost as large is Cut No. 4, which involved 145,000 cu. yd. of excavation, of which 20,000 cu. yd. was rock. Total earth excavation amounted to about 338,000 cu. yd., of which approximately 30,000 cu. yd., consisting of top soil, rock flour, and other material considered unsuitable for use in embankments, was wasted. Total solid rock excavation amounted to

In constructing the embankments the material was placed in 12-in. layers, before compaction, suitably crowned for drainage and thoroughly compacted by spreading and hauling equipment before the next layer was placed. Rocks larger than the thickness of the layers were not permitted. Proctor cylinder tests, as used by the United States Engineer Corps, were made daily to determine the degree of compaction and moisture content, the field laboratory of the Engineer Corps being made available for this purpose. The optimum moisture content was specified but, owing principally to



Profile of the Relocated Line, Showing Locations of Cuts and Fills and Character of Excavation

144,800 cu. yd., including about 10,000 cu. yd. of boulders. Altogether, this project involved a total of 875,000 cu. yd. of grading, including earth and rock excavation, stripping and borrow. About one hundred tons of dynamite were consumed in the blasting operations.

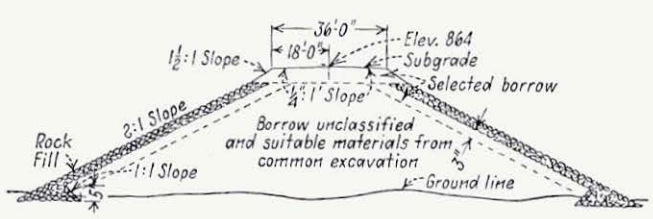
There are six fills on the relocated line, the largest of which carries it across the Otter River branch of the reservoir, the river itself being spanned by a bridge. This fill is about 3,500 ft. long, has a maximum height of approximately 45 ft. and required the placing of more than 400,000 cu. yd. of fill material, including rip rap. Altogether, the project entailed the placing of nearly 650,000 cu. yd. of fill, of which more than 350,000 cu. yd. was borrow.

Features of Embankments

The embankments on the relocated line are notable for the fact that they incorporate the latest practices and refinements in design and construction, the object being to assure a stable roadbed, free of drainage troubles, subsidence, slides and other evidences of instability, that would be capable of carrying traffic at full speed practically from the beginning. They have a crown width of 36 ft. and at all points above the dam where the fill is subject to saturation by water in the reservoir, they have 2:1 slopes up to elevation 859, which are covered with a 3-ft. layer of loose rock having a suitable toe carried well below the ground line. As noted previously, the embankments extend 5 ft. above elevation 859, and those portions above this elevation have slopes of 1½:1. In the long fill across the Otter River branch of the reservoir, the rock slope on each side of the embankment is underlain by a 3-ft. layer of selected borrow, consisting of a good grade of gravel ranging to medium sand. The upper 5 ft. of this embankment, that is, from elevation 859 to subgrade, is also composed of selected borrow. All other embankments on the relocated line have a 1-ft. layer of selected borrow at the top. On the section of the relocated line below the dam the embankment slopes are 1½:1.

the season of the year and the type of materials used, in no case was it necessary to add water. When the presence of excess moisture was indicated by tests, the practice was to scarify the particular area to expedite evaporation of excess water. This was generally accomplished by zig-zagging the bulldozers and turning them on short radii. By exercising proper traffic control over hauling equipment and by routing it in a systematic manner over the fills, the necessity for rolling the embankments, as specified, was eliminated.

Thorough and extensive sub-drainage systems and measures for preventing the erosion of the slopes are characteristics of the cuts on the relocated line. Subdrains, consisting of vitrified tile pipe with open joints laid in trenches back-filled with crushed trap rock, were



Typical Cross-Section of the Embankment in Fill No. 1 Which Extends Across the Otter River Branch of the Reservoir

installed under both side ditches of nearly all cuts. At intervals of 250 ft. in these drains, cleanout manholes were installed, each of which consists of a length of 24-in. concrete pipe placed vertically, with the bell end up, on a concrete base 3 in. thick. Each manhole is closed at the top with a cast iron grating.

Berm, or intercepting, ditches were constructed on the uphill sides of all cuts, and, where these ditches have a grade of more than five per cent, they were paved with grouted stone. Also, as a means of reducing the amount of excavation required and of retarding the velocity of flow in these ditches, concrete drop basins were installed in them at varying intervals, depending on the grade of

the flow line. As a further measure of slope protection in Cut No. 1, a continuous dike, composed of material excavated from the cut, was built along the top of each slope.

In another of the cuts, having a length of about 2,000 ft., the slopes are composed of rock flour, a material that is easily eroded. Moreover, the slope in this cut on the uphill side intersects a water-bearing stratum, thereby further contributing to its instability. To remedy this condition, the slopes of this cut were covered with a blanket of cinders.

One Major Bridge

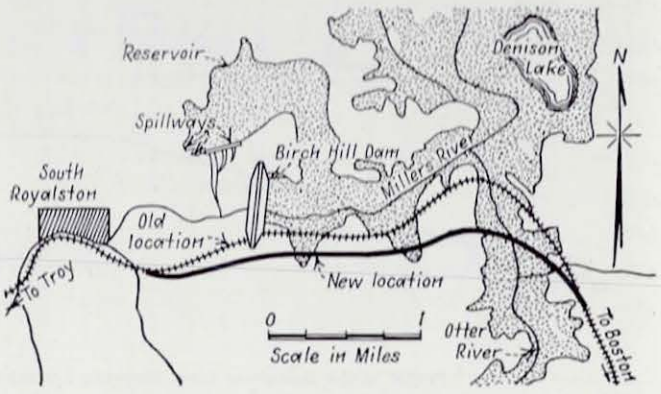
There is one bridge of major size on the relocated line, namely, the structure that was built to carry it across the Otter river. This is a three-span deck plate-girder bridge on concrete abutments and piers, in which each of the spans is 70 ft. in length. In these girders all the cover plates were placed on the lower flanges in order that the ties could be dapped to a uniform depth. This structure is of interest largely because of the nature of the foundation conditions existing at the site and the manner in which the bridge substructure was adapted to these conditions. At the location of the railroad crossing, the river lies directly at the foot of the ridge through which the line passes in Cut No. 1. On this side of the ridge, which is relatively steep, the underlying rock follows the contour of the ground and lies only a few feet beneath the surface. Hence, the design of the westerly abutment of the bridge presented no unusual problem, for it could be founded directly on this rock formation.

However, no such support was available at the opposite end of the bridge, for here it meets the westerly end of Fill No. 1, and at this point the fill is at its maximum height (about 45 ft.). Moreover, there were no underlying rock strata at a reasonable depth on which the abutment could be founded. To meet the conditions thus imposed, a buried-type abutment with a spread footing was designed for this location. The body of this abutment consists essentially of three parallel walls or shafts which are topped by a reinforced concrete slab, 21 ft. long, for carrying the tracks. The center column is 4 ft. thick and those on the outside are each 3 ft. in thickness. Transverse reinforced concrete struts extend between the shafts at mid-height and again at their upper ends. In their upper portions, the walls are 20 ft. long (parallel with the tracks), the front and rear ends being vertical, but in their lower portions they flare out, mostly on the downhill side, so that at their lower ends they are 42 ft. in length. Measured from the top of the footing to the top of the deck slab, this abutment is 51 ft. 4 in. high. The footing is 4 ft. thick, 30 ft. wide and 42 ft. long.

The footing of this abutment lies somewhat below the ground-water table, and for this reason the construction work was carried out inside a cofferdam of interlocking steel sheet piling, which was provided with a concrete seal, placed under water, having a thickness equal to one-half the water head. The cofferdam was left in place, being back-filled with a selected material, thoroughly tamped. A similar cofferdam was employed in the construction of the footing for the east pier, but at the west pier, which was founded on the rock ledge that is present on that side of the river, a concrete seal was not used and the cofferdam was removed afterward. Both piers are of conventional solid concrete construction.

Another waterway of interest is a structure that was built in the center of Cut No. 1 to drain a large swamp that was encountered on the top of the ridge in which this cut is located. This structure, the location for which was blasted out of the solid rock underlying the cut, consists of precast reinforced concrete slabs, 9 ft. long, supported on concrete abutments 7 ft. apart, which are dowelled into the rock walls of the waterway. The cross-section of this waterway is 7 ft. long and 6 ft. 5 in. high. To serve as a means of regulating the flow of water through this culvert and to retard its velocity, a concrete dam with a spillway was built across the waterway directly upstream from the tracks.

Other bridge work included the construction of a 10-ft. by 10-ft. concrete culvert, 189 ft. long, and the



Map of Birch Hill Dam and Vicinity, Showing the Old and New Locations of the B. & M. Main Line

replacement of the steel superstructure of an existing bridge, located at the westerly extremity of the project where the old and new alinements coincide closely, with precast concrete slabs. Also, there are numerous culverts on the relocated line, consisting mostly of precast concrete pipe ranging from 18 in. to 72 in. in diameter, all of which are provided with concrete headwalls and wingwalls.

The track structure on the relocated line is of heavy-duty construction, consisting of 112-lb. R. E. section rail, 4-hole toeless controlled-bearing bars, Lundie tie plates, creosoted crossties, largely of oak, placed 23 to the panel, and crushed trapstone ballast, placed to a depth of 12 in. below the ties on 12 in. of sub-ballast. Each rail is anchored with eight rail anchors, which are placed in accordance with the "end of rail" method on four ties at the receiving end of the rail.

Fast Work Necessary

The plans for the construction of the Birch Hill dam called for its completion on June 1, 1941, that being the date on which the Millers river was to be diverted to the overflow channel. Since the negotiation of a final agreement covering the relocation of the railroad was not completed between the railroad and the army engineers until August 5, 1940, less than 10 months' time was available in which to establish the railroad on its new alinement—with the plans and specifications yet to be drawn and compiled. This meant that the work would have to be rushed with all possible speed and that it would have to be prosecuted without let-up through the winter months. Actually, the river was not diverted until July 16, 1941, thereby allowing a slight extension of time in which to complete the railroad work.

In accordance with the agreement with the army engineers, the plans and specifications were completed by the railroad within 30 days after the agreement was reached. A contract covering all the railroad work in-

volved, except the signal work, was awarded on October 4, and three days later the contractor began work.

The operations were started at several points simultaneously, including the removal of the overburden in Cut No. 1 to permit blasting operations to be undertaken, the placing of material from borrow in Fill No. 1, and the substructure work at the Otter River bridge. In the meantime the contractor undertook the construction of an unusually complete system of access roads to all parts of the project. In this connection, the relocated line is located for most of its length in the Otter River State forest which is criss-crossed by a system of fire lanes that proved readily adaptable to use as access roads.

During the winter months the grading operations were confined to rock excavation and the placing of embankment from borrow, the material used being fine sand which could be handled without regard to frost conditions. Because of the need for speed it was to be expected that a large amount of motorized and power-driven equipment would be called into use. This equipment included eight 1½-yd. Diesel shovels, one ¾-yd. gasoline shovel, three crawler cranes, six bulldozers, six wagon drills, ten air compressors for supplying air for the drilling work, two truck-mounted air compressors for use in drilling boulders, and thirty-seven 5-ton trucks with automatic dump bodies. Concreting operations were carried on during the coldest weather by heating the aggregates and by conducting the work in heated enclosures.

The work of reducing the grade of the existing tracks at the west end of the relocated line was performed under contract by the same concern that handled the main project. Other work included the construction and subsequent removal of a set of temporary detour tracks for the main line at the west end of the project where the new and old alinements follow each other closely for about 1,000 ft., and certain alteration work in the vicinity of the South Royalston station that was made necessary as the result of a slight change in the alinement of the main tracks incident to the grade reduction program. This work included the construction of a small station to replace the existing structure, which was removed, the shifting of the section house to a new location, the removal of the existing pumphouse and freight house, and certain other work of a minor nature.

The new line was placed in service on July 22, 1941, or 9½ months after ground was broken. Because of the manner in which the roadbed was constructed and compacted, trains were held to a reduced speed (30 m. p. h.) for only 48 hr., after which all speed restrictions were removed.

The location, design and construction of the relocated line were carried out by the railroad under an agreement with the United States Army Engineer's office at Providence, R. I., represented by Lieutenant-Colonel J. W. Bragdon, and his successor, the late Lieutenant-Colonel Harley Latson, as district engineers. The work was prosecuted under the general direction of W. F. Cummings, chief engineer of the B. & M., and under the direct supervision of H. S. Ashley, construction engineer. F. W. Harper was the resident engineer for the railroad. The army was represented on the job by L. C. Hirsch, general inspector of construction, reporting to F. W. Facey, resident engineer on the construction of the Birch Hill dam. The T. Stuart & Son Co., Watertown, Mass., was the general contractor on the project. The steel spans for the Otter River bridge were furnished and erected by the Bethlehem Steel Company, Bethlehem, Pa. The signaling system on the new line was installed by company forces.

Grade Crossing Accidents Retard National Defense

By Chas. E. Hill*

IT is the duty of every citizen of the United States to render every possible service toward the enhancement of our defense program. Any action upon our part—either through indifference, carelessness or thoughtlessness—that in any manner retards our defense program might well be placed in the category of *involuntary sabotage.*

There never was a time in the history of railroad operation when it was so essential that our man power be kept intact; that no act upon the part of employees or others be done that will result in delay to the movement of traffic on the rails, thus impeding the progress of our national defense.

Collisions at rail-highway crossings between motor vehicles and trains upon all Class I Railroads in the United States result in a yearly average of 4,000 accidents, causing 1,875 deaths and 4,700 injuries to those riding in automobiles. Not infrequently these collisions cause derailments of trains—both passenger and freight—resulting in death and injury to railroad employees and passengers on the trains.

While the loss of life and property is serious, yet aside from this we are now confronted with a loss that during our present emergency stands out more glaringly than any other. We refer to delays to trains occasioned through such accidents. These trains may be transporting troops; they may be transporting defense material. A delay in these movements may be sufficient to affect seriously our ability to prosecute the war to a successful conclusion.

As a result of a recent study, we have developed the following:

There is a monthly average of 702 freight trains delayed as a result of crossing accidents for a grand total of 460 hours.

There is a monthly average of 435 passenger trains delayed as a result of crossing accidents for a grand total of 200 hours.

This represents a monthly average of delays to 1,137 trains a grand total of 660 hours, or an average daily delay to 38 trains a total of 22 hours.

Approximately 82 per cent of these accidents occur at crossings having special protection—not only the standard warning sign advising the motorist that he is approaching a crossing, but also some special device such as flashing lights, gates or watchman. These warning measures that have been installed at crossings at an enormous expense to the railroads—and in some instances to the public—are entirely ignored. In one-third of these accidents the motorist drives his car into the side of the train, either passenger or freight, all the way from the head end to the rear end.

The following are typical crossing accidents:

Passenger Trains

1. A motorist in attempting to drive a 1934-car over a crossing in daylight ran off the traveled highway. While car was abandoned, it was struck by a train, blocking two main tracks. This resulted in delay to 3 trains (including the one involved) a total of 3 hours 44 minutes. It was also necessary to transfer the passengers in the train involved.

2. As a motorist was attempting to drive his 1939-car over a crossing, it was struck by a train. Three trains

(*Continued on page 496*)

* General Safety Agent, New York Central System.

"The Great American Car Pool"

How and why the maximum practicable efficiency in handling freight is secured under ownership of equipment by individual railroads and present methods of handling it

By J. M. Symes

Vice-President, Pennsylvania—and Formerly Vice-President (Operation), A. A. R.

THE necessity, in the present emergency, of increasing production and transportation to the utmost possible, is apparent, and many suggestions for pooling the facilities of manufacturers and transportation agencies are being made in the belief that it would increase the nation's output of products and transportation. Such suggestions should recognize the fact that the facilities of our railways are pooled now more than those of any other industry, and that this is an important reason why throughout our defense and war efforts thus far the railroad industry has succeeded in meeting all demands upon it better than any other important industry.

The editor of *Railway Age* has asked me to comment upon proposals for pooling our transportation resources, and especially our freight car equipment. The fact is, that all the freight car equipment of American railroads already operates in one great interchangeable pool, and any suggestions to pool it only approve what already exists, or propose changes in methods that would render less effective the control that already exists, which automatically and continuously distributes the equipment to the point where it is needed. The operations of this great American car pool are so smooth and so efficient that the nation takes the results for granted without most persons realizing how they are attained.

Lack of Pooling in Other Countries

Other parts of the world are less fortunate. Different gages of track, different systems of brakes, different kinds of trucks and couplings, different designs and dimensions of equipment, block the free movement of traffic and help to divide nations.

In South America varying track gages impede trade and travel and are a major barrier to the dream of a Pan-American Railway. In less degree similar conditions are found in Europe. Russia, in particular, is isolated from the rest of the continent by a radically different railway gage. Australia is handicapped by five different track gages, which greatly restrict the movement of cars and make anything like a common pool of rolling stock impossible.

American railroads, also, were once shut off from one another. Big systems were built with track gages ranging from 6 feet on the Erie to 3 feet on the Denver & Rio Grande. In the south a 5-foot gage was originally favored.

The north was the first to lean toward the English or Stephenson gage, and its earlier adherents included the Baltimore & Ohio, the Mohawk & Hudson (forerunner of the New York Central), the rail sections of the State of Pennsylvania's "Main Line of Public Works," and the Pennsylvania Railroad. But there were many American variations of the Stephenson gage, some departing considerably from the standard 4 feet 8½ inches.

Canada started the Grand Trunk with a gage of 5 feet 6 inches; the Intercolonial went to the Stephenson gage. President Lincoln fixed 5 feet as the gage of the Pacific Railroad to link the oceans, but Congress overruled him and wrote the Stephenson gage into the Act. In 1871 there were still 19 American gages; but the urge for uniformity was compelling, and by 1887 practically every important road had its rails 4 feet 8½ inches apart.

Adoption of Standards for Freight Cars

Early differences in equipment abetted different track gages in restricting the movement of cars and trains; but that also is now long a thing of the past. Today, in 48 States of the Union, and in Canada and Mexico as well, not only is there a single track gage, but there are also the same standards for trucks, the same standards for brakes, the same standards for couplings and the same standards for car construction. The freight cars of one road will run, intermingled with those of any others, on the tracks of any road. The passenger cars of any road are free to go wherever the rails of a continent lead.

This, of course, I hardly need point out, did not just happen. Many years ago those who were planning the future of the railroads saw it was going to be necessary for national unity and growth. It was brought about by cooperative action in planning, designing and standardizing, and began to take form in the early 1870's, when the Master Car Builders Association started laying down the first rules for standardization.

There are 1,700,000 railroad-owned freight cars in the United States. All of them are ready to move anywhere, any time, for any shipper who needs them. These cars have been built of capacities, types and sizes to meet the widely different needs of users in every part of the country.

Efficient Distribution of Cars

As one of its chief functions, the Association of American Railroads—the great central organization of the rail carriers—studies constantly the car requirements of every section. It determines how many cars are needed in each area, and of what kind, and who should own them. The railroads then plan their new freight car programs on the basis of these recommendations, plus their own special knowledge of local needs.

This system automatically assigns to every car that is built a definite "home" position, and the railroad that should own it. Grain cars are the primary responsibility of railroads in the grain areas; merchandise box cars

are assigned to lines in merchandise areas; gondolas, to steel mill areas; hopper cars, to those areas where commodities like coal, coke, ore, stone, sand and gravel are important. Flat and depressed cars, of special construction and large capacities, are responsibilities of roads in territories making massive castings, transformers, armor plate, tanks, guns and similar very heavy products.

Under this broad plan, whenever a freight car is unloaded on a railroad which is not its owner it is the duty of that railroad, as soon as practicable, to start the car with a return load back to its "home" line, and if that cannot be done, then as nearly as possible in the general direction. Thus, all the 1,700,000 freight cars are at all times moving under a predetermined plan. Each has a definite place to which it is to be returned, and all railroad transportation men understand it.

This is the usual—the normal—course, but the plan has limitless flexibility. Whenever a great peak of demand requires a regulated flow of equipment to some particular area, then all sources, as directed, begin to contribute cars of the needed kind. The minute the peak is over these cars again automatically start to go back to their "home" stations.

In the record-breaking war traffic of the last few years this plan has worked to perfection. It has even functioned beyond the limits of the country. When northwestern Canada needed cars several times last fall, exactly the kinds which were wanted were supplied by rail lines of the United States.

As last summer was approaching, the winter wheat farmers, with the second largest crop on record in their fields, faced a crisis because elevators in the wheat belt were half to three-quarters filled with a huge carry-over from the year before. The greatest long-range shuttling of box cars in the annals of transportation was organized; 40,000,000 bushels of government-owned wheat were taken out of western elevators before the harvest, and 36,700 additional box cars, 29,500 of them placed on storage tracks, were on the western railroads before the last week in June. The big crop was moved without incident, so far as the farmers were concerned.

Most freight cars "go home" with return loads, but some cars always have to be moved back empty. For this there are two reasons. The first is, that the general flow of traffic in the country is not evenly balanced, but is materially heavier from west to east than vice versa. The second is, that a great deal of highly important freight is one-way traffic. It moves in one general direction from point of origin to point of consumption, and at least part of the cars have to be returned empty because the commodity does not move both ways, and not enough other freight can be found to take its place.

As long as that condition exists—and I know of nothing in sight to change it—there will be movements of empty freight cars. No possible schemes of control can avoid them.

The Test of Experience

The final test of any device is: Does it work—does it do the job it was meant to do? The American freight car pool was meant to mobilize the freight cars of the nation in order to haul the freight of the nation as offered. It does exactly that and here is the record to prove it:

1. Freight has moved freely, without car shortage or other difficulty, since 1924.

2. In 1929, a peak freight year to that time, 19 per cent more carloads were moved, promptly and speedily, than in the busiest year of the First World War, and with no increase in cars.

3. In 1939, the swiftest traffic rise in history, caused by the opening of the Second World War, was handled successfully, and with even fewer cars.

4. In 1940 a still larger volume was handled, also with complete success.

5. In 1941 the heaviest freight traffic ever moved—over 5 per cent more ton-miles than in 1929—was carried, again most successfully, and with the use of 600,000, or 26 per cent, fewer cars than in 1929.

Traffic today is even larger than a year ago and is moving freely and promptly. Every American freight car and every American freight train is doing more work than ever before in this or any other country. Experience and common sense alike place the seal of proven merit on a device which can point to results such as these.

Details are reviewable any time. This applies, for instance, to the "per diem," the dollar-a-day charged for a freight car in the hands of a railroad not its owner. Would a higher charge be a healthy incentive for those railroads which ought to buy or build more cars, but show reluctance? Should the charge, instead of being uniform, recognize the large differences that now exist in the cost and supply of various types of modern freight cars? Should it be raised to actual usage cost, or remain at about ownership cost?

These and similar questions may arise and may require study to answer. But this basic fact remains: Under the general plan of car pooling and distribution which now exists the freight of the world's greatest industrial nation is being handled more satisfactorily, more expeditiously, and at lower costs, than in any other country. To discard a device which is so fundamentally sound, so practical, and that has worked so long and with such conspicuously good results, as has been suggested by some in the past, would throw to the winds every principle of provident action.

Most of those who from time to time announce schemes for "pooling" the freight cars of the nation—despite the fact that they are already "pooled"—really mean to scrap the present pool and set up one of another type, in which generally the chief differences would be that the home station of the cars would be disregarded, and the principle of automatic distribution discarded for a fallible human one, and generally by eliminating the incentive to return the cars to the home station.

"Pooling" Under Government Operation

Such an arrangement was in effect during the period of Federal Control in the First World War. It resulted in serious local car shortages, especially severe in the grain areas, because it failed to maintain a proper distribution of cars or to provide a flow of cars to the localities where they were needed. It went down in history as one of the many failures of Federal Control.

One of the main purposes of those advocating a changed "car pool" in the past has been to reduce empty car miles by eliminating the so-called "per diem urge"—that is, sending foreign cars home empty in order to minimize the $1 per day payments. During the depression period when there were many thousand surplus freight cars, the Association of American Railroads established a plan for box cars known as the "Average Per Diem Plan." This provided that instead of a railroad paying $1 per calendar day for the actual time a foreign car was on its rails, it would pay an average amount based upon a previous test period. Roads could hold a foreign car for several weeks in order to obtain a load and be required to pay but a few dollars for such use.

The railroads generally saw no advantage in the plan,

particularly those in western territory, because of the difficulty in getting their own cars home to protect the loading they originated. With an up-turn in business, in order to obtain greater utility of equipment, the plan had to be discarded.

The difficulties experienced with the "Average Per Diem Plan" would be multiplied many times by any of the revised pool plans I have ever seen.

The essence of the present pooling plan, and the thing that more than anything else makes it work, is the fact that it places upon each individual road the primary responsibiilty and initiative for its proper car ownership and maintenance. At the same time, it provides complete flexibility of inter-road use of cars to whatever extent required. In other words, it combines the maximum of responsibility with the greatest efficiency. To relieve the individual roads of their duty and incentive in respect to owning and maintaining cars would leave responsibility nowhere, with the certainty that the supply would shrink in numbers, run down in condition, move about in "hobo" fashion, and the public would suffer through car shortages.

The Path of Future Progress

The path of true progress lies, not in changing over to a system of car pooling that has already proved a failure, nor in adopting some untried system, but rather in making the present tried and successful system work even better, as experience permits the further perfecting of its details.

Owing to fundamental differences between freight and passenger traffic there has not so far been a need in this country, and may never be, for a general pooling of passenger cars. It is the exception, and not the usual rule, for passenger cars to go off their own lines. However, where the need exists, they can, and do, as readily as freight cars. The machinery is set up to do this as occasion warrants.

Long standing examples of this exist, particularly in the Atlantic Seaboard territory and elsewhere east of the Mississippi river. Passenger coaches of the New England lines are frequently seen in Philadelphia, Baltimore and Washington, and vice versa. Coaches of roads in the Middle Atlantic and Midwestern States are familiar sights in the far South.

Since the opening of the new World War movements of soldiers to and from training camps, on furloughs, and to posts of duty, have been carried out on unprecedented scales, and this has largely been accomplished by recruiting both coaches and Pullman cars, from areas where traffic is normally dense, to provide transportation over lines which do not themselves own, or ordinarily need, much passenger equipment. The passenger cars of the American railroads are designed, and are available, to move anywhere as readily as freight cars, and to whatever extent the necessities of the nation may require.

Locomotives are not usually interchanged between different railroads. The occasion to do so rarely exists, because, on account of the need for frequent servicing at properly equipped facilities, locomotives ordinarily cover definite runs over the lines which own them.

Operating efficiency requires that the designs of locomotives shall be adapted to the differences in grades, clearances, character of traffic, lengths and weights of trains, weather conditions, etc., existing on different railroads. However, interchange is quite possible, and there are a number of instances throughout the country in which small pools of locomotives are maintained between two or more roads in the same territory, and with good results. The practice can be extended if circumstances require, although there seems to be no likelihood of any condition arising in which it would be desirable or efficient for locomotives, generally, to move about over the country, as do freight cars.

Summing up what has been said, it is my opinion that the present "American Car Pool" is the best practical method for efficient and economical car distribution, producing maximum car utility with a minimum of effort. It has behind it many years of experience of the best talent available in matters of car handling. Of all the radical revisions of the present pool heretofore reviewed, none were anywhere nearly as efficient as the present pool. To attempt to revise it under existing conditions would be a blunder.

Grade Crossing Accidents Retard National Defense

(*Continued from page 493*)

(including the one involved in the accident) were delayed a total of 1 hour 55 minutes.

3. As a 1929-car was being driven over crossing it was struck by a train, which was delayed 2 hours 59 minutes. Another train was delayed 51 minutes.

4. A 1929 sedan was driven onto a crossing and struck by a train. This train was completely put out of commission and 96 passengers were transferred to another train at midnight. Two other trains were delayed a total of 2 hours 4 minutes.

These four accidents caused delay to 10 modern passenger trains for a total of 12 hours and 33 minutes.

Freight Trains

1. Train struck 1937 sedan; automobile demolished; driver killed. Engine badly damaged and signal devices placed out of commission. Crossing protected by watchman who was at his post of duty but his stop signal was ignored. Four trains were delayed a total of 3 hours 30 minutes.

2. A truck and trailer loaded with steel bars and wire was driven into a side of a train, 20 cars from caboose, derailing 3 cars and putting 100 feet of track out of alignment. Required to detour two passenger trains, in addition to serious delay to freight train.

3. Automobile driven at rapid rate of speed got off highway onto main track and was struck by train. Auto badly damaged but no personal injury. Damage to locomotive. Train delayed 1 hour 20 minutes. Crossing protected by flashlight signals which were properly functioning.

The railroads have accepted the added responsibilities that the war entails. They are meeting such obligations in full measure. They are doing a good job in maintaining their schedules in the transportation of passengers and freight. Their greatest deterrent in this regard *is the thoughtless or reckless motorist who fails to take necessary precautions at grade crossings.* While only about 5 per cent of motorists are in this category—as revealed through a check made at a large number of grade crossings—yet they represent a large army of one-and-a-half million drivers whose thoughtless or careless acts we are seeking to curb.

How Can the Public Aid?

The public can help in the following ways:

1. Approach all rail-highway crossings at grade with the car under control prepared to stop if necessary.

2. Look and listen—if the view is obscured, use extra precautionary measures—know the way is clear before attempting to pass over the crossing.

3. Obey the traffic rules and caution others to do so.

4. Enlist the aid of public enforcement agencies in a campaign for safe driving on the highway and at grade crossings.

5. Make periodic checks to see that the rules for safe driving are being adhered to.

6. Education is a valuable preventive measure. Therefore, all the publicity that can be given to this subject through civic bodies, schools (parochial and public), the press, etc., is desirable.

7. Civic organizations and other public agencies can render a valuable service by cooperating in any manner possible to the end that the aforesaid suggestions will be made effective. Through this aid they will be instrumental in eliminating the hazards that not only result in loss of life and limb to their fellow men, but they will also be instrumental in the *furtherance of our Defense Program.*

Keeping Tab on Traffic by Shippers & Commodities

By J. R. Staley*

THE Missouri Pacific has developed a convenient and economical system for providing its traffic department staff with useful daily and periodic information on the detailed carload movements by specific shippers and commodities. With this company, as doubtless with most others, the collection and preparation into statistical form of information about the movement of freight has been a process of many methods. These have grown up over a period of years, and have been adapted so that the need for information could be met as well as possible from the material and sources available.

Aside from the general information reflected in the well-known Quarterly Commodity Statistics reports, the rate department had relied largely on special compilations, laboriously secured from agents, and from abstracts from the records of the solicitation forces. The auditor of freight accounts was called upon, and commodity statistics were secured from waybill records and settlements.

The solicitation forces were furnished daily with statements of movements from which records for individual shippers, and sometimes commodities, were compiled in a form to permit a record, study and analysis. A distinction must be made of the movements, i. e., interline; overhead; local. The methods employed for these purposes by the Missouri Pacific traffic department prior to January 1, 1938, may be briefly described as follows:

The Old System

Prior to January, 1938, no uniform reports were compiled by commodity classes. On interline and overhead traffic, the agents at junction interchange points (with minor exceptions) made a daily report to the general office of waybills delivered to or received from each connecting line. These reports were on Accounting Department Form 3237 (delivered to) and Form 3238 (received from). The "delivered to" reports showed the following information:

Road to Which Delivered
Junction Point
Date
Waybill—Date and Number
Car—Initials and Number
Waybilled From and To (Station and State Road From)
Consignor—Consignee
Routing (Roads interested, also oncoming junction when from beyond Mo. Pac.)
Commodity (Name and Number)
Weight in Pounds
Freight
Destination (If beyond waybilled to)

"Received from" reports supplied the same information for movement in the reverse direction. These reports were sent daily to St. Louis (general office) and, while addressed to the auditor of freight accounts, they were first used by the service bureau for the first step in the initial traffic department setup.

A daily hectograph report was compiled from the information abstracted from the Forms 3237 and 3238, and was mailed daily to 85 outside offices. This work was performed in the typing bureau with the use of hectograph ribbons, and showed the following information:

Interchange Station and Date
Waybill date and number
Car initial and number
Origin
Shipper
Destination
Consignee
Contents
Routing

Each page contained 40 lines, and the report averaged 40 pages. It was quite a job to type these master hectograph sheets, run off the hectographed copies and assemble 40 pages daily. In addition, postage came to more than $700 a month.

When the daily hectographed report was received in the outside traffic offices, the general agent, chief clerk, or assigned statistician was required to scrutinize it carefully and, usually, with a colored pencil, to check off the cars originating or destined to points in the territory assigned to that particular agency. Caution had to be exercised by each agency to insure that only cars moving from or to the towns assigned it were checked off. Obviously, this required considerable time, since each hectographed report recorded approximately 4,000 cars, and in the larger territories it meant one or two hours' work to identify cars to be posted in that one office's books.

The next step was to copy manually, on prepared form sheets, outbound and inbound separately, approximately the same information shown on the daily hectographed reports. Usually one or more pages would be assigned to each of the larger shippers and receivers, according to volume of their business each month, and several smaller shippers and receivers may have been shown on one page. In addition, a "miscellaneous" page was maintained for the movement of an occasional car. In the course of a month's time, the agency in this manner would accumulate the record showing the business of each shipper or consignee, with information as to destination, consignee, full routing, etc.

To summarize: The essential information was first shown in abstract on Forms 3237 and 3238, reports furnished the auditor of freight accounts; second, the information was recopied in the typing bureau for the daily hectographed reports; and, third, it was recopied manually into record books in the outside traffic agency offices. At the close of each month's business the total number of cars received or shipped by given firms was determined, and this information was posted on the card records maintained for those accounts. With this card it was possible to compare a month's figures with the previous month's and year's.

In addition, a report of business handled by important firms, giving information of the total cars shipped or received during the month, was furnished to the general traffic office at St. Louis and to certain supervisory officers. Record cards were posted in St. Louis of the firms so reported. Another report was furnished

* Freight Traffic Manager, Missouri Pacific Lines.

showing a list of the principal commodities, in and out, classified by commodities, according to each outside traffic office's ideas.

The foregoing covers only interline traffic as it was recorded by off-line agencies. On traffic forwarded from or destined to stations served by the Missouri Pacific, no definite system of maintaining records was followed. On-line traffic offices frequently made arrangements to receive copies of waybills of forwarded shipments and freight bills of received shipments at competitive stations, but no attempt was made to secure a record of traffic handled at non-competitive stations. At competitive points, outbound and inbound cars were abstracted by the local agent, and a report was compiled on important firms and furnished the division office. In addition, this report contained data of cars switched from and to the industries served by the Missouri Pacific, to keep track of the volume of traffic handled, as well as that switched for connections. Copies of these reports were sent to the general office.

It was also the practice for all agents to furnish a report, on prepared forms, of commodities received and forwarded. Copy of this report was sent to the outside traffic offices exercising jurisdiction over such stations. This record was also available for the information of other departments, but was not in accordance with I.C.C. commodity classifications.

Disadvantages of the Old System

The principal objection to the old system was the labor and time consumed in manually transcribing records from the hectographed report to the prepared form sheets for the office records in the outside agency. Obviously, this was a duplication of work. In a month's time, it required several thousand hours of clerical work in the 85 outside offices maintained by the Missouri Pacific traffic department. Secondly, there was no uniformity in the records maintained on traffic originating and destined to stations beyond the Missouri Pacific and on traffic originating and destined to stations served by the Missouri Pacific.

Thirdly, the information available at stations served by the Missouri Pacific, which should have been in minutest detail, was, with the exception of certain firms, only a general knowledge of the commodities handled, although there was a record of the total cars handled for all of the principal firms. Because of the laborious method of collecting the data from waybills and freight bills, it is obvious the limited forces in the outside offices were unable to maintain records in detail.

Fourthly, because of the labor involved in transcribing records from the hectographed reports to the forms, there was a tendency to put this work aside and, unless carefully policed, some offices would become negligent in posting the records. So much detail was necessary at some agencies that traffic representatives were required to devote part of their time to posting in order to keep the records current, and this kept them away from their assigned work.

The New "Slip System"

The deficiencies of the old method being apparent, a search was made for a simplified system of compiling and maintaining the records. Inquiries were made of other railroads, and valuable and helpful ideas were developed from this source. Among our objectives was a reduction in the time and expense necessary to supply and record this information. It was particularly burdensome to have to transcribe, manually, a record that had already been typed in the typing bureau. We found also that other lines were making uniform commodity reports to their general offices which were helpful and useful. Our objective was to provide up-to-the-minute reports of movements, compile accurate records, and reduce the amount of effort in maintaining records and making essential reports. After a thorough study of the available information and considering many suggestions, a new plan was adopted and placed in effect January 1, 1938, in the Missouri Pacific freight traffic department. We call this the *Slip System.*

Effective January 1, 1938, the old hectographed report was discontinued. In lieu thereof, the data from Form 3237 and Form 3238 reports are now transcribed in the typing bureau at St. Louis on specially prepared paper. This paper consists of individual slips, size 2½ in. by 4⅛ in., in continuous rows of 250 slips per block. These rows consist of an original and four copies, with single-use carbon paper already inserted. The original is on white paper, with copies on pink, blue, yellow, and brown, respectively. Data for slips covering cars not interchanged to and from connections are taken from the original waybills sent in to the auditor of freight accounts daily by the destination agent.

General Office Use.—The white, or original, slip is retained in the general office and filed in special cabinets by I. C. C. commodity classification numbers. This record has found many uses. The solicitation department frequently takes the slips for any specific commodity and, by sorting, makes a statement showing breakdown of tonnage from the various firms. To illustrate—in a short time, possibly two or three hours, one can analyze the movement of bananas for a year's period and determine origin, shipper, destination, and consignee, and in this way develop the trend of the movement and act quickly to correct any weakness that may have developed.

The rate department can have a statement prepared of the movement of any commodity, to determine the trend of the movement, etc., in order to support its position in connection with a formal complaint, or for any other purpose. It is amazing how much valuable information can be developed quickly by sorting and resorting the slips in order to get the kind of information desired.

Outside Office Use.—The pink and blue slips are for forwarded traffic, and the yellow and brown slips are for received traffic, and are forwarded to the respective agencies. The pink and yellow copies are used for the office records and reports. The blue and brown copies are turned over to the respective traffic representatives in accordance with assignments of firms. By this means the traffic representative has placed in his possession daily a slip record of each car moving over the Missouri Pacific for the firms he contacts.

Controlled Traffic Use.—The agency where traffic originates and terminates is required to keep the controlling office posted of tonnage moving in and out of its territory. This is done in a simple manner by forwarding to the controlling agency at the close of each month the blue and brown copies of the slips after the interested traffic representative has noted them.

A complete explanation of the detailed working of the present system, involving the use of individual slips for each car, including the sources of information, forms used, method of distributing and filing slips, compilation of daily accumulative and monthly reports, and how these data are utilized, etc., is clearly set forth in a pamphlet which may be obtained upon application to E. R. Ford, Secretary, Accounting Division, Association of American Railroads, Transportation Bldg., Washington, D. C., at a price of twenty cents.

Vital Economic Facts To Guide Policy-Makers

HERE is a cheerful and hard-boiled book* of economic and historical fact which makes understandable the present situation of this country and the world. The intelligent manager of a business (including the railroad business) cannot expect that his personal fortunes or those of his company or his country will prosper, if his policies are based on misunderstanding of economic trends of the times. This book is wholly practical, therefore, because it replaces popular error with truth on many questions vital to national and business policy. The author is optimistic. He foresees for America—not bankruptcy, but unparalleled prosperity; not socialism, but a vigorous capitalism—provided only that *we work with the facts and not with popular distortions of them.*

The tallest and most ruinous of the current "fables" which this book sets right is the one about "production for use and not for profit." This is not only the frank slogan of the admitted collectivists, but it is the actual goal of practically all uplifters—even those who think they believe in democratic institutions. Here the truth is made as clear as A, B, C. Nobody produces anything except for use (unless he is a gangster bent on sabotage). Profit is simply the motive which induces us to produce things for other people. If a society depends (as a free people must), on the *voluntary* co-operation of its members, there must be some motive "strong enough, compelling enough, and common enough to make the system work." What universal motive can any one suggest, except the "profit motive" which will make people willing to work for each other?

"Sentimentally the 'profit motive' is confused with lust for money," says the author—but he explains that everybody operates under this motive, at least to the degree necessary to fill his minimum wants. The housewife shopping in the market for spinach buys it where she finds it cheapest. She is acting under the "profit motive," and by doing so discovers some extra pennies left over from her food money with which she can get more goods "for use" than if she had bought her spinach without shopping around. The unionist fights for a wage increase—here again it is the "profit motive" that spurs him on.

The so-called "national planners" want to direct all production from Washington—placing it in the hands of an "economic general staff." All right then. Without the "profit motive," what will make the people carry out the details of the planners' plan? Says the author: "It is indispensable to create a substitute for such a general motive of individual behavior as individual material interest (the 'profit motive') provides, and this substitute can only be fear of punishment." Since it is impracticable to put a policeman behind every man to make him work exactly according to plan, the planners have to use terrorism. The American people must choose between capitalism and freedom, on the one hand, or "national planning" and a reign of terror, on the other.

Dr. Stolper does a more devastating and convincing job than we have been able to mirror in this small space in polishing off the "production for use" nonsense. This "fable" is, at bottom, behind most of the woes of the world. The author gives some little-known and stubbornly-resisted facts about the Utopias (such as Germany and Russia) where the deplorable "profit motive" has been killed off. Such countries can make war all right—but they cannot give their people a decent or a rising standard of living. The author relates some recent Russian history and economics which cannot be refuted but which must sound blasphemous to the millions of Americans who have been duped by the communistic arguments of our alleged "liberals." In 1941 the Russian standard of living was barely back to where it was in 1913 under the czars (for most years of Bolshevik rule it has been far lower). There was, for instance, only half as much livestock in Russia in 1936 as in 1916. In spite of all the misery and the murder of millions in order to put force behind its "plans," none of them has worked out as foreseen. Not until 1935, after 18 years of Bolshevism, was that unfortunate country—so rich in agricultural potentialities—even able to abolish the bread ration card.

The author unclothes the fable of the German (i. e., Hitlerian) "miracle" as thoroughly as he does that of the Soviet paradise. "Hitler," he writes, "abolished unemployment. So did Stalin. So did Mussolini. So did Winston Churchill and Franklin D. Roosevelt. So does every country that bends all its efforts to war economy irrespective of costs."

Among the many other fallacies which the author sets right with adequate evidence are the following:

That capitalism is "planless" while collectivism consists of perfect planning. (Actually capitalism "is a miracle of planning and consists of nothing but planning" by almost everybody in the community—while collectivism tries to replace the planning brains of all the people by those of a few political master minds.)

That peace-time "government spending" induces prosperity. (Actually its "effects were largely or entirely offset by the billions of private money" that government spending scared to cover.)

That during the depression we had "poverty in the midst of plenty." (Actually "in the last fifty years no class of people in the civilized world went without coffee or corn because coffee or corn was destroyed." The United States is the richest country in the world, but if we had had full employment in 1937 the average family income would have been only $2,200.)

That unemployment is caused by "underconsumption" and that it can be cured by spreading "purchasing power" around. (Actually "mass unemployment never originates in a let down of consumption. Mass unemployment originates in a decline of investment, that is, when an industrial economy ceases to grow and expand.") †

That government ownership of railroads or other utilities solves any economic problems. (Actually "government ownership of railroads has not mitigated cyclical movements of business, has never prevented a boom or attenuated a depression." "Nowhere has proof been offered that government ownership of public utilities makes power—or gas, or water—cheaper than private operation under public control.")

That wars have economic causes. This is a standard socialist fable, which is widely accepted by non-socialists—for instance by those who contended that "international bankers" got us into the last war. (The author asserts, and offers historical evidence to prove, that "not one single major war in the last 150 years had its origins in economic causes or was waged for economic interests.")

This is not a bitter or partisan book. No honest reformer will turn from it in pain, and any reader whose views are consistently capitalist (not the mock or high-tariff species) will find it supports his principles by a wealth of factual evidence. Even a labor leader—unless he insists on the privilege of playing the racketeer—will find Dr. Stolper sympathetic with most of his aims.

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* "This Age of Fable" by Gustav Stolper. Published by Reynal & Hitchcock, N. Y. $3.

† It is noteworthy, of course, that the New Deal tried continually to deal with pre-war unemployment in every way except the one which could have ended it—namely, giving private investors the hope of making a dollar so that revived investments might have been forthcoming.

NEWS

Jan. Net Income Was $25,700,000

Net railway operating income was $68,966,000, up $6,879,000

Class I railroads in January had an estimated net income, after interest and rentals, of $25,700,000, as compared with $19,700,000 in the corresponding month last year, according to the Bureau of Railway Economics of the Association of American Railroads. The January net railway operating income, before interest and rentals, amounted to $68,966,000, as compared with $62,017,000 in January, 1941.

The A.A.R. statement calls attention to the fact that the latter is up "by less than seven million dollars," despite "an increase of 103 million dollars in gross operating revenues," adding that "the other 96 million dollars of increased revenues was absorbed by operating expenses which increased 29.7 per cent and taxes which increased 42.7 per cent." The present statement discontinues the previous practice of giving comparisons with 1930 and the rate of return by months; it gives the latter for the 12 months ended January 31—3.81 per cent as compared with 2.67 per cent for the twelve months ended January 31, 1941.

Operating revenues in January totaled $480,691,000, compared with $377,374,000 in January, 1941, an increase of 27.4 per cent. Operating expenses amounted to $348,781,000, compared with $268,972,000, an increase of 29.7 per cent.

Class I roads in January paid $51,163,000 in taxes, compared with $35,856,000 in January, 1941, an increase of 42.7 per cent. Thirty-eight Class I roads failed to earn interest and rentals in January of which 15 were in the Eastern district, three in the Southern district, and 20 in the Western district.

Class I roads in the Eastern district in January had an estimated net income, of $11,100,000 compared with $16,800,000 in the same month of 1941. Those same roads had a net railway operating income of $28,535,000, compared with $34,485,000 in January, 1941.

Gross in the Eastern district in January totaled $232,083,000, an increase of 20.5 per cent compared with January 1941. Operating expenses totaled $171,540,000, an increase of 27.8 per cent.

In the Southern district the estimated net income for January was $6,300,000 compared with $5,600,000 in January, 1941. The net railway operating income was $10,998,000, compared with $10,453,000. January operating revenues in the Southern district totaled $66,560,000, an increase of 24.8 per cent compared with January, 1941, while operating expenses totaled $47,377,000, an increase of 28.9 per cent above the same month in 1941.

Class I roads in the Western district in January, had an estimated net income of $8,300,000 compared with a deficit of $2,700,000 in January, 1941. Those same roads in January had a net railway operating income of $29,434,000 compared with $17,079,000 in January, 1941. Gross in the Western district in January totaled $182,048,000, an increase of 38.5 per cent compared with January, 1941, while operating expenses totaled $129,864,000, an increase of 32.6 per cent above January, 1941.

CLASS I RAILROADS—UNITED STATES

Month of January

	1942	1941
Total operating revenues	$480,691,000	$377,374,000
Total operating expenses	348,781,000	268,972,000
Operating ratio—per cent	72.56	71.27
Taxes	51,163,000	35,856,000
Net railway operating income (Earnings before charges)	68,966,000	62,017,000
Net income, after charges (estimated)	25,700,000	19,700,000

Heads WPB Rail Unit

Orrin H. Baker, assistant manager of sales of the Railroad Materials Division of the Carnegie-Illinois Steel Corporation at Chicago, has been appointed head of the Rail Unit in the Iron and Steel Branch of the War Production Board. Mr. Baker's appointment was one of six announced this week by C. F. Adams, chief of the Iron and Steel Branch.

The other appointments included three assistants in the Branch's Plate and Shape Unit—A. L. Meyer, formerly with the Great Lakes Steel Corporation; A. S. Hoff, formerly with the Inland Steel Company, and R. A. Marble, formerly with Carnegie-Illinois.

No Pensions for I. C. C. Commissioners

By its action this week in repealing the much-criticized pensions for congressmen Congress also made it impossible for members of such administrative agencies as the Interstate Commerce Commission to retire on a government pension. The action was taken by attaching a rider to H. R. 6446, a bill to provide for continuing of pay and allowances of personnel of the Army, Navy, Marine Corps, and Coast Guard. As the law stood after the passage of the Ramspeck bill several weeks ago, the members of the commission would have been eligible for pensions had they elected to pay a fixed amount into the Civil Service Commission retirement fund.

Railroads Needed To Fight a War

Vast movement in present war calls for mass transport, and that means rrs

"Back of every military operation is movement—movement of men, movement of munitions, movement of materials. Beyond all other wars which men have fought, this is a war of movement. In the vast movement toward victory, each form of transportation has its own special and particular part to play. Within the United States itself, the major part must be performed by the railroads," declared Robert S. Henry, assistant to the president, Association of American Railroads, addressing the joint luncheon of the Southwest Shippers Advisory Board and the Traffic Club of New Orleans, at the Jung Hotel on March 6. Mr. Henry continued, "Only on roads of rails is it possible to assemble numerous individual cars, separately loaded and unloaded, into trains for mass movement over long distances with a minimum expenditure of power and materials and that other precious commodity, human time.

"Plans for the efficient use of this basic continental transportation were made after the last war, with the experience of that war in mind. They have been kept up to date since, to match transportation developments and military requirements. The plans began to be put to their test on that September day in 1939 when the armies of Hitler poured across the frontier into Poland.

"The emergencies were met as they arose—met by railroads which had learned lessons from the past; which had better tracks and yards and signals, better cars and locomotives, better plant and equipment of every sort; railroads whose methods had developed and improved with the betterment of their equipment; railroads which, above all else, had the assistance of organized co-operation on the part of the shippers and receivers of freight, whether private industries or the defense departments of the government.

"And then came December 7, 1941, and a new emergency demand which for immediacy and extent dwarfed all that had gone before. And that emergency, too, the railroads met. They met it because the plans of twenty years and more were sound; because the organization which they had set up for just such purposes worked; because the Army and the Navy, also, were

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Curren and Baths Join ODT Staff

General managers of B. & O. and M. N. & S. in division headed by Boatner

William G. Curren, general manager of The Baltimore & Ohio's New York Terminal Lines, and James M. Baths, general manager of the Minneapolis, Northfield & Southern, have been appointed, respectively, associate director and deputy associate director of the Office of Defense Transportation's Division of Railway Transport. Associate Director Curren will be in charge of the Eastern region with headquarters at New York, while Deputy Associate Director Baths will be in charge of the Western region with headquarters at San Francisco, Calif.

The ODT announcement said that these regional officers will "work cooperatively with the railroads within their respective jurisdictions" to: (1) Keep the Division of Railway Transport continuously informed as to railroad traffic and transportation conditions; (2) develop plans to insure that railroad operations and equipment are utilized with maximum effectiveness, in order to produce the volume of transportation required by the war effort.

Mr. Curren was born in Webb Mills, N. Y., April 12, 1881, and he entered railroad service in 1901 as agent for the Northern Central (now part of the Pennsylvania). Thereafter he served in various capacities on the Erie and Kansas City Southern, becoming superintendent of car service for the latter in 1910. Two years later Mr. Curren became associated with the B. & O., serving as assistant superintendent, supervisor of transportation, and

William G. Curren

assistant to general superintendent of transportation during 1912-13. From 1913 until 1917 he was assistant general superintendent of transportation for the B. & O. Western lines with headquarters at Cincinnati, Ohio, and in 1917-18 he was superintendent of transportation with headquarters at Baltimore, Md. From 1918 until 1920 Mr. Curren was with the United States Railroad Administration, serving in turn as special agent in charge of transportation at New York, transportation assistant of the Eastern region, and general superintendent of transportation for the Southern section of the Allegheny region. Returning to the B. & O. in 1920, Mr. Curren became general superintendent of transportation with headquarters at Baltimore; and in 1926 he became general manager of the New York Terminal Lines, the position he was holding at the time of his present appointment to the ODT staff.

Mr. Baths was born June 18, 1881, at

James M. Baths

Chicago, and he entered railroad service in 1895 as a call boy for the Chicago Great Western. He then served in turn as messenger, clerk, brakeman and switchman on the same road until 1903 when he became a switchman on the Alton. He was serving the latter as trainmaster when he left in 1911 to become an assistant superintendent on the Denver & Rio Grande Western. The following year, Mr. Baths became associated with the Chicago, Indianapolis & Louisville as trainmaster, and he next served as division superintendent for that road and assistant superintendent for the C. G. W. From 1917 until 1929 he was superintendent on the Peoria & Pekin Union; and during the 1929-34 period he was again with the C. G. W., serving in turn as general superintendent, general manager and vice-president. In 1934 Mr. Baths became Western Regional Director for the Federal Co-ordinator of Transportation, remaining in that position until 1936 when he became an operating expert for the Old Colony at Boston, Mass. Later in the same year he came in a similar capacity to the Minneapolis, Northfield & Southern, and he has been that road's general manager since November, 1936.

Pullman Named "Wake Island" to Be Dedicated March 10

The Pullman car "Wake Island" to be named in honor of the marines who held that island for 14 days against the Japanese, will be dedicated at the Union Station, Chicago, on March 10 at noon. Mrs. R. M. Montague, wife of Col. R. M. Montague, officer-in-charge of the Marine Corps' Central Recruiting division, will be the sponsor and will christen the car with a bottle of water drawn from the Pacific Ocean.

Protecting Jobs in Abandonments

Court says I. C. C. can require carriers to find work for displaced help

The Interstate Commerce Commission has the power to attach labor-protection conditions in abandonment cases. Such is the gist of a unanimous decision of the United States Supreme Court which was handed down on March 2 in the case of the Interstate Commerce Commission and the Pacific Electric Railway Company, appellants, versus the Railway Labor Executives Association and the Brotherhood of Railroad Trainmen. By its ruling the high court upheld a decision of a special three-judge court in the District of Columbia which had decided last March that the commission had such discretionary power.

The lower court decision, reviewed in the *Railway Age* of March 15, 1941, page 491, went on, however, to suggest that such labor-protection provisions might be necessary and just in such a case as the instant one in which there was to be a substitution of motor bus service for electric interurban operation, but that they might not be reasonable in an outright abandonment of a whole line where there would be no place to absorb the displaced workers. Justice Black, who wrote the decision of the Supreme Court, simply discussed the question of whether or not the commission had the power to impose such conditions, and having found that such power existed, did not discuss the instant case as to its merits but remanded it to the commission for further action in the light of the evidence.

The case arose out of an appeal of the R. L. E. A. and the Brotherhood of Railroad Trainmen from the commission's decision in Finance Docket No. 12643 wherein the Pacific Electric (a wholly-owned subsidiary of the Southern Pacific) had been authorized (without labor-protection conditions) to abandon some 88 miles of line in the Los Angeles, Calif., area. Following its decision several years ago in the Chicago Great Western case (207 I. C. C. 315) the commission, through Division 4, had taken the position that it did not have authority under the Interstate Commerce Act, as amended, to insert such conditions in abandonment cases. As a result, it refused to consider testimony from the labor organizations relating to the need for such conditions in the instant case.

The labor unions took the position both before the lower court and the Supreme Court that because the latter tribunal in the Rock Island case (United States v. Lowden, 308 U. S. 255) had found that the commission had power to insert labor-protection provisions in consolidation cases despite the fact that the law did not then specifically so state, such power was also inherent in the section of the law dealing with abandonments. The unions did not ask the court to find that such provisions were mandatory, but simply that the com-

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ODT Gets in on Truck Rationing

Haulage of war goods gets first call and retail delivery is near list's bottom

A rationing program for all types of trucks, tractors and trailers will become effective on March 9 and will be administered jointly by the War Production Board and the Office of Defense Transportation. The program, set forth in General Conservation Order M-100, was announced on March 1 by J. S. Knowlson, director of WPB's Director of Industry Operations.

To carry out its assignment under the program, ODT has designated the field offices of the Interstate Commerce Commission's Bureau of Motor Carriers as "local allocation" offices of ODT. Prospective purchasers, except certain exempted government departments such as the Army, Navy, Maritime Commission and lend-lease, must send their purchase applications to one of the ODT local allocation offices. Upon approval by the local allocation officer, the application will be sent to ODT headquarters in Washington; and, if approved there, it will be forwarded to WPB for review and action.

WPB approval in the form of a "certificate of transfer" issued by the director of industry operations will enable the applicant to purchase the type of truck or trailer he desires from any dealer in the country who has such a vehicle in stock. Preliminary estimates indicate that approximately 196,000 trucks and trailers will be available for rationing during the next 22 months, the WPB announcement said.

Under the program, five usage classifications are established. These, subject to revision, show the order in which trucks and trailers will be released for sale, according to their place in the war program. Vehicles "in service operations connected with the construction, maintenance and supply of essential rail, highway, water, pipe line, and air transportation facilities" are in Class II, which covers "vehicles principally used directly in connection with the war effort." Class I covers "vehicles principally used in connection with military forces (in action or on maneuvers), public health or safety, or with essential channels of communication." Class III covers "vehicles used in connection with essential functions indirectly connected with the war effort," such as the transportation of ice and fuel. Class IV covers vehicles used to transport persons or goods not connected with the war program, including all forms of retail delivery except of ice and fuel. Class V covers "vehicles used in connection with non-essential functions or so-called 'luxury' uses and not connected with the war effort."

"With a limited supply of trucks and trailers," the WPB announcement said, "WPB offers no encouragement to persons who can qualify only under Classes IV and V. These two classes were established so that there would be a 'preference' guide in the event that the available supply was not exhausted under Classes I, II and III." Also, the announcement called attention to an important feature of the rationing program which provides that "no preference rating heretofore or hereafter assigned . . . shall entitle any person to receive any new commercial motor vehicle"; thus the only way to secure a commercial vehicle will be to obtain a certificate under the rationing plan.

The rationing program is a follow-through from the so-called "freeze" orders which, since the first of the year, have prohibited sales and deliveries of new trucks and trailers. Rationing will permit gradual release of "frozen" stocks to the eligible users. The Office of Price Administration, which has been given authority to ration passenger automobiles, will not participate in the truck-rationing program.

Illinois Suburban Fare Hearing March 11

The Illinois Commerce Commission will hold a hearing on March 11 on the petitions of 14 Illinois railroads for a 10 per cent increase in commutation fares. The commission has ordered a suspension of other increases in excursion and special tariff fares sought by the railroads.

Mediation Board Gets Funds

President Roosevelt has signed H.R. 6548, the first supplemental deficiency appropriation bill, which carries an item of $22,500 for the National Mediation Board for the current fiscal year ending June 30, 1942. The bulk of the total ($20,000) would be used for salaries and traveling expenses of referees appointed to head deadlocked National Railroad Adjustment Board cases.

ODT Forms Warehouse Industry Advisory Committee

Formation of a Merchandise Warehouse Industry Advisory Committee has been announced by Director Eastman of the Office of Defense Transportation. The committee, consisting of eight members representing different sections of the country, will act as an advisory body to the Merchandise Warehousing Section of ODT's Division of Storage.

Staggered Hours Urged by Chamber of Commerce Committee

Staggered working hours is offered by the Transportation Committee of the Chamber of Commerce of the United States as the best immediate remedy for traffic congestion now afflicting many cities and newly created defense areas. The committee's report on the subject analyzes steps taken by various communities to relieve such congestion.

Illinois Roads Ask Relief from Red Tape

Illinois railroads applied to the Illinois Commerce Commission on February 25 for authority to change or suspend passenger schedules without giving the required 30 days' notice on the ground that this requirement hampers their ability to release equipment for military uses. The application was opposed by the five operating brotherhoods. The commission set March 25 for the hearing.

Davis Fumes But McNear is Firm

Labor board excuses intrusion by alleging non-existent delay to war effort

On March 2, George P. McNear, Jr., president of the Toledo, Peoria & Western, declined to arbitrate the dispute on the T. P. & W. as ordered by the National War Labor Board on February 27. The order of the WLB read in part: "Now, therefore, it is hereby resolved and ordered that the parties proceed to submit their controversy to arbitration under an arbitration agreement as provided in Section 8 of the Railway Labor Act." This order was communicated to Mr. McNear and followed by a telegram on February 28, requesting an answer not later than the morning of March 3. In turn, Mr. McNear telegraphed William H. Davis, chairman of WLB, requesting for examination, a detail record of the hearing of the board at which the order was passed, including extended remarks.

The reply of Mr. McNear, declining arbitration, dated March 2 was as follows:

"We are in receipt this morning of Mr. Kirstein's letter of February 28 enclosing certified copy of the Board's order dated February 27, 1942, also transcript of the hearing held on that day. According to your wire of February 28, you desire an answer to present to the Board tomorrow morning. We shall do our best in the short time allowed us.

"The findings preceding the order are not correct. We shall not take the time at this writing to go into them, except to remind the board that we were denied the opportunity to present facts relating to those findings. A hurried reading of the transcript discloses that while the T. P. & W. is considered by the Quartermaster General of the army to be of decided importance in the prosecution of the war effort, there was not one bit of evidence offered to show that the T. P. & W. was not adequately and promptly handling all war and defense traffic offered. As a matter of fact, as stated in my wire of February 21 to Mr. Morse, we are now handling an increasing volume of such traffic. There is, therefore, a serious question as to the interest of the board in the matter.

"As to arbitration, we do not believe that under present conditions arbitration as proposed under the Railway Labor Act would help the situation and, therefore, we must most respectfully decline. There are many complications that would now arise. The talk that would be set loose by the brotherhoods and the uncertainty which such talk would cause to the full complement of our men who are now operating the trains, regarding their future status, would tend greatly to disrupt our operations and lessen our efficiency. We are certain the board's primary interest, in endeavoring to assure maximum and efficient transportation, would not be served by such procedure.

"I would also advise you that I do not handle labor matters on our railroad; they are and have been handled by our superintendent, trainmaster and attorney, who are here in Peoria operating the railroad. If the brotherhoods desire to discuss some form of arbitration procedure, other than arbitration under the Railway Labor Act, and the issues and the personnel of the arbitrators, all of which necessarily must be considered before an arbitration agreement can be reached, we suggest that they come to Peoria where our people will be willing to meet and confer with them.

"Something was said at the hearing about an embargo, which is still in effect on our railroad and as a result of which we do not handle through movements of certain perishables and livestock. This particular embargo does not in any way delay or interfere with the through movement of such commodities. The T. P. & W. only commenced handling them in comparatively recent years; it had never handled them before. There are other and more important railroads which do not handle them. However, we contemplate lifting this particular embargo in the very near future."

The following day Mr. McNear canceled the remaining embargoes in effect on his road and announced in telegrams to Mr. Davis, chairman of WLB, and Donald M. Nelson, director, War Production Board,

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Tips Included in Minimum Wages

Court doesn't believe Congress wanted tip-getters to be favored over others

Tips collected by red caps at railway terminals may be applied by employers toward wages under the Fair Labor Standards Act of 1938, according to a five-to-three decision of the United States Supreme Court on March 2. The ruling was made in two cases which were consolidated into one, Pickett versus the Union Terminal Company (of Dallas, Tex.), and Williams versus Jacksonville Terminal Company. In both cases the Fifth Circuit Court of Appeals had held that tips are wages within the meaning of the act, thus reversing decisions of federal district courts which had found to the contrary and had awarded damages to red caps.

"The question presented by both these cases," said Justice Reed, who wrote the majority decision, "is whether a railroad company operating a terminal subject to the Railway Labor Act and the Fair Labor Standards Act of 1938 is required by those statutes, in the absence of a negotiated agreement respecting wages, to pay 'red caps' a fixed minimum hourly wage irrespective of the tips from passengers received by the red caps, or whether an accounting and guarantee plan which leaves all tips with the red caps and assures them that each will receive at least the minimum wage is valid."

"The Fair Labor Standards Act," continued Justice Reed, "is not intended to do away with tipping. Nor does it appear that Congress intended by the general minimum wage to give the tipping employments an earnings-preference over the non-service vocations. . . . In businesses where tipping is customary, the tips, in the absence of an explicit contrary understanding, belong to the recipient. Where, however, an arrangement is made by which the employee agrees to turn over the tips to the employer, in the absence of statutory interference, no reason is perceived for its invalidity. The employer furnishes the facilities, supervises the work and may take the compensation paid by travelers for the service, whether paid as a fixed charge or as a tip. A tip to a red cap is compensation for service. It is customarily given and always expected when such service is rendered."

"To interpret 'pay wages' as limited to money passing from the terminal to the red cap," concluded Justice Reed, "would let construction of an important statute turn on a narrow technicality. It, of course, can make no practical difference whether the red caps first turn in their tips and then receive their minimum wage or are charged with the tips received up to the minimum wage per hour. Congress approached the problem of improving labor conditions by the establishment of a minimum wage in certain industries. It required that workers in these industries receive a compensation at least as great as that fixed by the act. Except for that requirement the employer was left free, in so far as the act was concerned, to work out the compensation problem in his own way. Other courts are in accord with our view."

Justice Black wrote a short dissenting opinion, which was concurred in by Justices Douglas and Murphy. "One who gives a red cap a tip does not necessarily know that he is thereby helping the railroad to discharge its statutory duty of paying a minimum wage to its employees," declared Justice Black. "The tip paying public is entitled to know whom it tips, the red cap or the railroad. A plan like that before us, which covertly diverts tips from employees for whom the giver intended them to employers for whom the giver did not intend them and to whom any kind of tip doubtless would not have been voluntarily given, seems to me to contain an element of deception."

Electrical Night at New York Club on March 19

The New York Railroad Club will hold its next meeting at the Engineering Societies building, 33 West 39th Street, New York, on March 19 at 7:45 p. m. Titled, "Electrical Night," the program will include an address on "Railroad Motive Power of the Future" by F. B. Powers, manager of engineering, Transportation & Generator Division, Westinghouse Electric & Manufacturing Co.

12,787 Air-Conditioned Cars

Class I railroads and the Pullman Company had 12,787 air-conditioned passenger cars in operation on January 1, according to the Association of American Railroads. This was an increase of 587 compared with the number of air-conditioned passenger cars on January 1, 1941, at which time there were 12,200 passenger cars so equipped.

Of the total number of such cars, Class I roads on January 1, had 7,523 an increase of 562 compared with the same date last year. The Pullman Company had 5,264 air-conditioned passenger cars in operation, or an increase of 25 compared with January 1, 1941.

High Court Dismisses Seniority Case

The United States Supreme Court at its meeting on March 2, remanded to the United States district court for the district of Nebraska a suit brought by 41 conductors and brakemen of the Chicago & North Western in Omaha, Nebr., seeking damages for the alleged refusal of the carrier to grant certain seniority rights.

The case reached the high court on the question of whether the amount involved was sufficient to permit trial in a federal court. The Supreme Court, in an opinion by Justice Frankfurter, said that no individual claim amounted to the required $3,000 and that the claims could not be lumped together to give the federal court jurisdiction. Under the law the district court is required to dismiss the suit, but the case was remanded to the lower court without prejudice to an application for leave to amend the bill of complaint.

Court Broadens Grandpa Rights

Finds I. C. C. limited truckers unduly—Union permitted to enforce "Make Work" rule

At its session on March 2, the United States Supreme Court further clarified the status of the so-called "grandfather" motor carrier certificates of convenience and necessity when it handed down two decisions which overruled the Interstate Commerce Commission in some respects. Both cases involve the commission's limitations which had been placed upon common carriers of general commodities over wide geographical areas.

In the case of the United States versus Carolina Freight Carriers Corporation the court, speaking through Justice Douglas, held that the commission had no authority to limit a certificate of public convenience and necessity granted under the "grandfather" clause of the Motor Carrier Act to the transportation of specific commodities between specific points served "with degree of regularity" on the "grandfather" date and thereafter without regard to the character of the carrier's holding out on such date and thereafter. However, the court held that the commission could limit the territory within which a "grandfather" trucker may operate, despite the fact that he may hold himself ready to carry products over a wide territory.

The Carolina Freight Carriers Corporation, with cental operations in the Piedmont section of North Carolina, had been successful in the United States district court for the western district of North Carolina in having set aside the order of the commission denying it a broad permit to carry general products in the east, while granting it permission to transport special products between specific points, thus conforming to the firm's actual transport history.

"If the applicant has carried a wide variety of general commodities," declared Justice Douglas, "he cannot necessarily be denied the right to carry others of the same class merely because he never carried them before. And where he has carried a wide variety of general commodities he cannot necessarily be restricted to those which he carried with more frequency and in greater quantities than the others."

In a companion case of Howard Hall Company, Inc., versus United States the court decided that the commission had authority to limit a "grandfather" motor carrier certificate to operations as a common carrier of general commodities within a 10-mile radius of a given city and to all points in five states, but was unjustified in limiting authority to the carrying of specific commodities between other points.

In the Carolina case Justice Jackson, in a dissenting opinion, which was concurred in by Justice Frankfurter, declared that the majority's decision "overturns the exercise of a discretion which Congress has delegated to the Interstate Commerce Commission upon grounds which seem to us so unsubstantial as really to be a reversal on

suspicion." Both justices also noted a dissent in the Howard Hall case, taking the same position that they took in the Carolina case.

In another case of the United States versus Local 807 of International Brotherhood of Teamsters the court ruled that labor unions are exempted from the prohibitions and penalties of the federal anti-racketeering law. The union in the case was convicted of forcing interstate truckers to employ local union-member drivers for all trucks entering New York City. In the event that local union drivers were not employed to take the trucks into the city, the truck operators were forced to pay $9.42 for each large truck and $8.41 for each small truck entering the city.

Agree to Tighten Demurrage Rules

A national program of tightening railroad demurrage restrictions without shortening the present 48-hr. free time limit allowed, was agreed upon by officials of the Association of American Railroads and the National Industrial Traffic League at Chicago, following two days of conferences on February 24 and 25. Accordingly, a special meeting of the N. I. T. League is expected to be called early next month for the purpose of convincing the shippers to do a better job and voluntarily cut down their debit time in loading and unloading cars and to vote on several changes in demurrage restrictions. The principal change to be voted upon is a ruling that after the free time has elapsed, Sundays and holidays will not be free. Some other minor changes will also be considered.

Young Leaves ODT; Called to Active Army Duty

Colonel Charles D. Young, Pennsylvania vice-president in charge of real estate, purchases, and insurance, who has been serving as director of the Office of Defense Transportation's Section of Materials and Equipment, has been called to active duty with the Army. Colonel Young's assignment is to the Office of the Chief of Staff.

A photograph of Colonel Young and a sketch of his career appeared in the *Railway Age* of January 17, pages 214 and 218, when his appointment to ODT was announced. His previous military career included service during World War I as Lieutenant Colonel, Transportation Corps, A. E. F., and he has since been a reserve officer. Colonel Young's successor at ODT had not been announced when this issue went to press.

C. Vanderbilt, Engineer, Dies at 68

Brigadier General Cornelius Vanderbilt, a member of the famous railroad "dynasty" and a mechanical engineer who developed a new fire box and a special tender design, died on his yacht at Miami, Fla., on March 1, at the age of 68. Born the great-grandson of Cornelius Vanderbilt who built up the New York Central system and originated the family's great railroad holdings, General Vanderbilt early showed a great fondness for the railroad business and an aptitude for mechanical engineering. Receiving his B.A. degree at Yale University in 1895, he was apprenticed to the mechanical department of the New York Central and was engaged in many of the advanced designs of locomotives which the Central was then introducing. In 1897, he took up a scientific graduate course at Yale receiving his Ph.B. in 1898 and M.E. in 1899. For a few months thereafter he worked in the civil engineering department of the road, then was forced to give up direct railroad employment upon the death of his father.

In 1899 General Vanderbilt patented a boiler which embodied a corrugated, cylindrical fire-box without stays. This design was first embodied in a New York Central "ten-wheeler" built at the West Albany shops. General Vanderbilt also designed a cylindrical locomotive tender, the first of which was attached to a freight locomotive built by Baldwin for the Illinois Central in 1900. General Vanderbilt was long a director of a number of roads, including the New York Central, Delaware & Hudson and Illinois Central.

Reject Proposal for Minimum Carload Weights for Grain

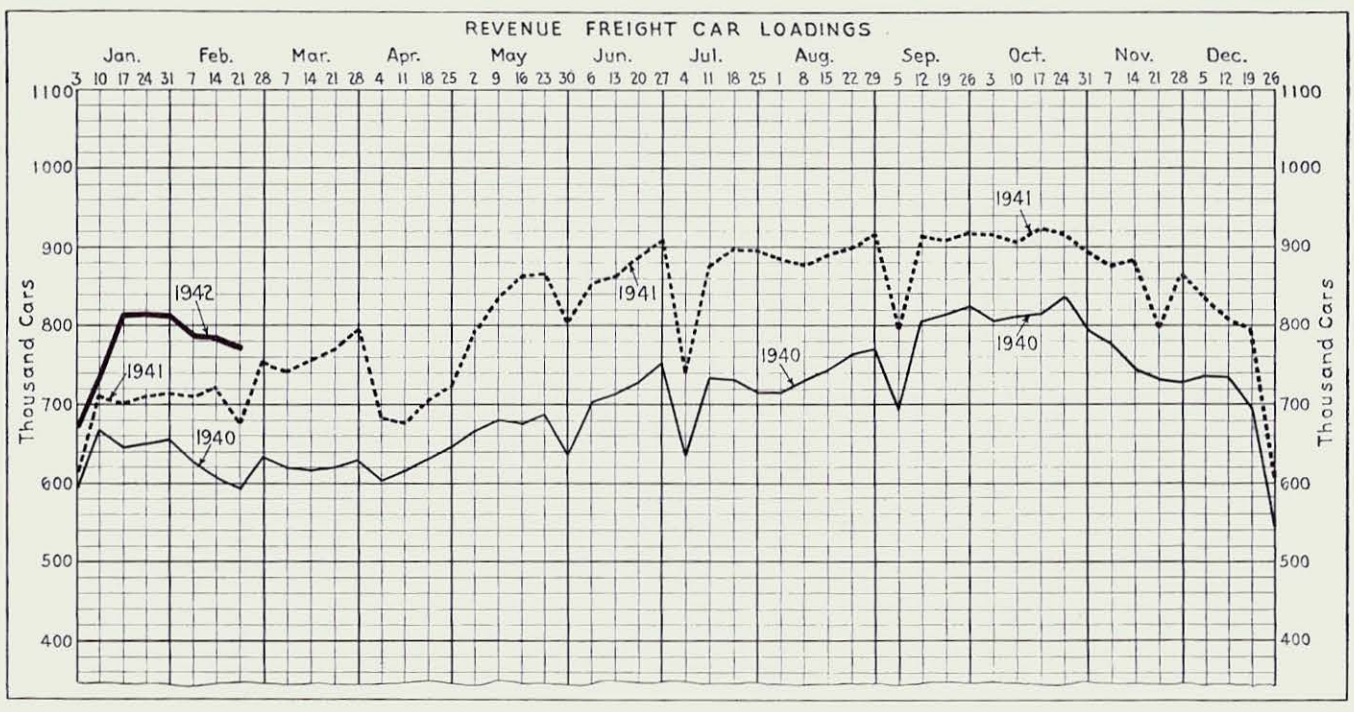
On March 3 at a meeting of the Western Trunk Line Committee and the Transcontinental Freight Bureau at Chicago, Western roads rejected a shippers proposal to specifically amend tariff to allow minimum carload weights on grain of 80,000 lb. for whole grains and flaxseed and 64,000 lb. for oats and screenings on the ground that under the present operation of the Interstate Commerce Commission's service order No. 68, effective since February 15, the grain shippers were being unduly penalized.

Under the existing minimum weight rules, which were superseded by service order No. 68, a minimum carload weight of 60,000 lb. had been in effect and many shippers adhered to the practice of ordering cars of 60,000 capacity, the supply of which is very limited. If such a car was not available a larger car was furnished, and the shipper needed only to load 60,000 lb. to get the carload rate. Under service order No. 68, the shipper must load to the capacity of the car furnished to obtain the carload rate. The order was designed to help conserve the freight car supply in the interests of the nation's war effort.

Freight Car Loading

Loading of revenue freight for the week ended February 28 totaled 781,419 cars, the Association of American Railroads announced on March 5. This was an increase of 6,824 cars, or 0.9 per cent, above the preceding week, an increase of 24,749 cars, or 3.3 per cent, above the corresponding week in 1941, and an increase of 146,783 cars, or 23.1 per cent, above the same week in 1940.

As reported in last week's issue, loadings



of revenue freight for the week ended February 21 totaled 774,595 cars, and the summary for that week compiled by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loading

For Week Ended Saturday, February 21

District	1942	1941	1940
Eastern	165,006	152,634	132,739
Allegheny	174,593	151,951	125,675
Pocahontas	48,878	49,989	44,843
Southern	120,761	110,864	92,766
Northwestern	92,353	70,290	68,301
Central Western	114,447	94,113	88,617
Southwestern	58,557	48,682	42,442
Total Western Districts	265,357	213,085	119,360
Total All Roads	774,595	678,523	595,383
Commodities			
Grain and grain products	36,103	27,233	31,223
Live stock	9,947	9,662	10,768
Coal	158,665	150,837	135,789
Coke	14,501	14,064	9,867
Forest Products	44,976	36,691	30,146
Ore	13,039	12,055	9,810
Merchandise l.c.l.	150,030	139,280	133,908
Miscellaneous	347,334	288,701	233,872
February 21	774,595	678,523	595,383
February 14	782,699	721,176	608,237
February 7	784,060	710,196	627,429
January 31	815,567	714,354	657,830
January 24	817,804	710,752	650,187
Cumulative Total, 8 Weeks	6,199,627	5,564,304	5,046,614

In Canada.—Carloadings for the week ended February 21 totaled 60,849, as compared with 61,912 in the previous week and 54,168 in the corresponding week last year, according to the compilation of the Dominion Bureau of Statistics.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada:		
Feb. 21, 1942	60,849	31,489
Feb. 14, 1942	61,912	31,818
Feb. 7, 1942	62,235	32,404
Feb. 22, 1941	54,168	28,801
Cumulative Totals for Canada:		
Feb. 21, 1942	481,562	246,633
Feb. 22, 1941	413,709	219,837
Feb. 24, 1940	377,142	190,753

Almanacs Mix Railroads with the Weather

A 40-page paper-bound "Everyman's Almanac" is this year being distributed to railroad patrons by the Chicago, Milwaukee, St. Paul & Pacific, the Atchison, Topeka & Santa Fe, and the Michigan Railroads Association. Published by David A. Wallace, 871 North Franklin street, Chicago, the inexpensive booklets are generally uniform, although certain material dealing specifically with the respective roads is different in each. The booklets are written along the lines of the traditional American farmers' almanac, with plenty of "weather wisdom," common sense suggestions for meals, "removing wall paper," "how to make imitation clusters of grapes," etc. Interspersed there appear brief statements on the railroad industry, its program, its tax load and its performance in carrying defense traffic.

McNutt Praises Railroads

Railroad officers have been listed by Federal Security Administrator Paul V. McNutt, director of the Office of Defense Health and Welfare Services, among those who are "combining their efforts to make life more pleasant for the men of the armed forces and reduce prices to fit their pocketbooks." The citation came in a March 1 statement which also mentioned theater and baseball managements and directors of recreational centers.

As to the contribution of the railroads, Mr. McNutt called attention to the round-trip-tickets which men in uniform on furlough may purchase at the special reduced rate of one and one-quarter cents per mile. "It was suggested to the railroads that this would be a helpful gesture and they agreed," Mr. McNutt said. "It is a splendid service for the soldier, sailor or marine going home on leave. All that a man on leave need do to secure this special rate is to show his furlough credentials."

$8,000,000 Suits Settled Out of Court

Settlement of two damage suits, one for $5,000,000 and the other for $3,000,000, by Robert R. Young and Allan P. Kirby, officials of the Allegheny Corporation and Seaboard Company, Ltd., against George A. Ball and the George and Frances Ball Foundation, were settled out of court at Indianapolis, Ind., on February 25. The suits were based on damages claimed through market manipulations of certain securities which carried control of the former Van Sweringen properties and are said to be the first major civil action brought under Section 9 of the Securities Act of 1934, which prohibits market manipulations.

As a result of the agreement, details of which have been kept secret, control of Allegheny Corporation, which carries about a 26 per cent voting control of Chesapeake & Ohio, is expected to revert to the Young-Kirby syndicate.

Rogers Sees Need for "Doubling Up" on Motor Operations

Because sufficient vehicles, materials and facilities "are not going to be available to permit motor vehicle operations to be carried on by any group or individual as in the past," John L. Rogers, director of the Office of Defense Transportation's Division of Motor Transport, anticipates that it is going to be necessary to go in for the "pooling of equipment and services" and "'doubling up' in bus and truck operation." Mr. Rogers made this prediction in an address delivered March 3 at the Defense Highway Congress of the American Road Builders Association in Memphis, Tenn.

"We must not be misled by thinking that there are plenty of vehicles to carry on 'business as usual,'" Mr. Rogers said. "These vehicles must last a long time and carry an increased volume of traffic. . . . The supply will not permit continuation of present methods under which trucks are dispatched with part loads by different operators covering the same routes and territory. The supply will not permit duplicate operations by farmers, merchants, or manufacturers for competitive or commercial reasons. The supply of vehicles, materials and facilities is insufficient to permit vehicles to be operated unnecessarily as a means of providing employment, and the supply will not permit shippers and consignees to tie up equipment by delay in loading or unloading."

In order to deal with this problem Mr. Rogers' ODT Division has set up various sub-divisions to promote cooperation among different types of vehicle operators. Field offices will be established at strategic points throughout the country, for the purpose of working with the motor transport industry. Meanwhile, Mr. Rogers cautioned motor vehicle operators to adopt the best maintenance practices. Under present conditions of material shortages, he said, "it becomes not only an act of self-preservation to keep present equipment in good repair, but it also becomes a patriotic duty."

British Roads Limit Passenger Travel Further

Passenger train services of the British railroads are now reduced by 25 per cent or more as compared with pre-war days, to free locomotives and tracks for essential troop train and freight services. Inasmuch as their passenger-carrying capacity is deficient, dining and sleeping cars have been taken off a number of through trains. Reserved space on certain trains is now allocated to the government. Refreshment facilities are curtailed because food is rationed. British locomotives sent to Iran (Persia) to speed aid to the Russian armies have made necessary the rearrangement of locomotive power.

The "travel urge" so assiduously and actively encouraged by the British roads has had to be replaced by appeals to the public to "travel only when you must." Service travelers form 50 per cent of train passengers, in some parts of the country 70 per cent and 80 per cent, and train services for war workers in government factories are being increased.

Club Meetings

The Car Department Association of St. Louis will hold its next meeting on March 17 at the Hotel DeSoto, St. Louis, Mo., at 8 p. m. Lieutenant Colonel N. L. Cote, executive officer, Air Corps, Scott Field, Ill., will present a paper entitled, "The Philippines, Its Defenses and What Method Will Be Taken to Safeguard It." A chorus of 28 voices from Scott Field will be guests of the Association at dinner and the meeting.

The Northwest Locomotive Association will hold its next meeting on March 16, at Woodruff Hall, St. Paul, Minn., at 8 p. m. R. M. Cincoski, boiler foreman, Northwestern Pacific, will present a paper entitled, "Locomotive Boilers."

The next meeting of the Eastern Car Foreman's Association will be held on March 13 at the Engineering Societies Building, New York, at 8 p. m. R. L. Salter, engineer of tests, Association of Manufacturers of Chilled Car Wheels, Chicago, will present a paper entitled, "The Chilled Car Wheel."

Treasury Proposes 15 Per Cent Tax on Fares; 20 Per Cent on Berths

Increases in the present five per cent tax on amounts paid for passenger transportation to 15 per cent on charges for transportation and 20 per cent on charges for seats and berths have been recommended to Congress by Secretary of the Treasury Morgenthau. The proposal came in Mr. Morgenthau's suggested tax program for raising $7,000,000,000 additional revenue, a

program which also contemplates increases amounting to about 40 per cent in corporation taxes.

The transportation tax, like the present five per cent levy, would apply to all forms of transport. The estimated additional annual yield from the increases is put at $94,800,000. Adoption by Congress of the Treasury recommendation would have the effect of increasing the cost of railway travel by 25 per cent over what it was a year ago, i.e., by the 15 per cent tax plus the recent 10 per cent increase in fares.

Other Treasury proposals include an increase from 4.5 per cent to 10 per cent in the tax paid on charges paid for transportation by pipe line, estimated additional yield, $18,700,000; an increase from 1½ cents per gal. to three cents in the federal gasoline tax, estimated additional yield, $242,200,000; and an increase from 4½ cents per gal. to 10 cents per gal. in the tax on lubricating oil, estimated additional yield, $49,900,000. Increases are also proposed in the taxes on telephone and telegraph services.

Government Agencies are Classified

In accordance with the executive order of the President issued last week to speed up the transfer of federal employees to the war agencies, Director Harold D. Smith of the Bureau of the Budget has announced the "priority classifications of the several departments and agencies in respect to their relative importance to the war program."

Director Smith pointed out that the classification groups, five in number, were designed solely to expedite the transfer of competent employees to the most important war tasks. He emphasized the fact that the classifications were not designed to reflect the importance of the agencies to the government as a whole. Within individual groups no priority is indicated by the order of the listing.

The Office of Defense Transportation is listed in group 2, while the Interstate Commerce Commission's prevention of car shortages activities are placed in group 3, and its other activities are found in group 5, the last in the list of priority ratings. The National Mediation Board is placed in group 4, and the Railroad Retirement Board is classified in group 5. Also included in group 5 is the Board of Investigation and Research created under the Transportation Act of 1940.

Standards Group Announces New List For 1942

The American Standards Association (of which the A. A. R. is a member) on February 26 announced publication of its new list of "American Standards" for 1942 comprising nearly 500 American standards listed in a wide variety of industrial fields. There is a separate heading for American defense emergency standards, and for the first time all American safety standards are listed together in a separate section.

According to the Association:

"These standards include definitions of technical terms, specifications for metals and other materials, methods of test for the finished product, dimensions, safety provisions for the use of machinery and methods of work. They reach into every important engineering field, serving as a basis for many municipal, state, and federal regulations.

"In each case these standards represent general agreement on the part of maker, seller, and user groups as to the best current industrial practice. More than 600 organizations are taking part in this work. The standards are frequently reviewed and revised in order to keep them in line with changing industrial needs. New standards, and those brought up to date within the year are especially marked in the list."

The list of standards will be sent free in response to requests addressed to the Association, 29 West 39th street, New York.

P. R. R. Awards Brakeman Medal for Heroism

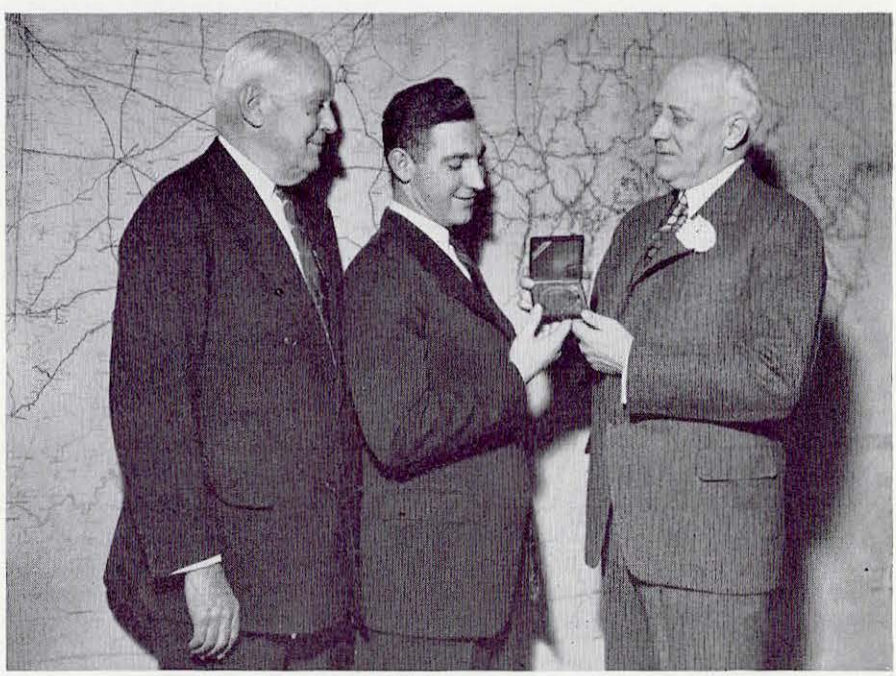
For saving the life of a small boy who had ridden a tricycle into the path of a moving locomotive and tender, E. Carver Tettemer, a Pennsylvania freight brakeman of Trenton, N. J., received the railroad's medal for heroic service from President M. W. Clement on February 25. Presentation was made in the presence of the members of the board of directors, and by their authority. The medal, according to the railroad, "is the highest tribute that can be paid by the railroad to any employee for protecting life or preventing accident, under circumstances of great personal danger, and beyond the call or requirements of duty."

The heroic action for which Brakeman Tettemer received this honor, occurred May 8, 1941, on a siding going into a large steel plant in Trenton. A locomotive and tender were backing into the plant, and Mr. Tettemer was stationed on top of the tender, facing the direction in which it was moving. As the engine was starting to cross a street at grade on the siding, the brakeman noticed two boys, who were going down the street, trying to get over the track ahead of the moving equipment. Mr. Tettemer called to them to stop and the one who was walking did so, but the other boy, apparently confused, rode his tricycle directly onto the tracks and fell off.

Realizing that the only way to save the boy's life was to get to him at once, Mr. Tettemer jumped from the tender onto the track ahead and pushed the boy clear of the track against an iron fence. The brakeman was caught between the moving tender and the fence, and received painful injuries, from which he made complete recovery after hospital treatment. He managed to push the boy out of harm's way, however, and saved him from even slight harm. The locomotive at the time was moving at a considerable speed, and was not slowing down, as the engineman did not see the occurrence and had no knowledge that anything was wrong until his fireman shouted to him to put on the brakes. Mr. Tettemer's action, therefore, involved extreme hazard to his own life.

N. Y. Central Issues Film on New York

A new sound motion picture in color showing the highlights of New York City was presented by the New York Central on March 4 at a special preview attended by city officials, executives of civic trade associations, newspaper editors and hotel managers. The film, entitled "New York Calling!" is New York Central's contribution to the promotion of nation-wide interest in the cultural, educational and entertainment facilities of New York City and travel to that metropolis. Using the daily life of the great city to portray its moods at work, at study and at play, individual shots catch scenes varying from the idle informality of pigeon feeding to the gran-



Brakeman E. C. Tettemer (Middle) Receives the Pennsylvania's Medal for Heroic Service From President M. W. Clement (Right) While George LeBoutillier, Vice-President at New York and Head of the Zone in Which Mr. Tettemer is Employed, Looks on (Left)

deur of New York's famed skyline. Production was in charge of Frederick G. Beach, supervisor, Motion Picture bureau, Public Relations department, New York Central System. The narration, written by Gordon Auchincloss, is given by Vincent Connolly. The film, 800 ft. long, has a running time of 24 min.

It is expected that the picture will have an appeal to varied audiences including school students, parent-teacher groups, motion picture clubs, church, civic and social organizations. Copies of the 16 mm. picture have been placed in film libraries throughout the country and the picture may be reserved for group showing by writing to the nearest library. At present the picture is not available for showing in the New York metropolitan area.

Commission Upheld in B. & O. Abandonment Case

The Supreme Court of the United States at its March 2 session sustained an order of the Interstate Commerce Commission authorizing the abandonment of a 20-mile branch line of the Baltimore & Ohio in order to make way for a flood control project. The decision in the case of Purcell and others versus the United States, the Confluence & Oakland, and the Baltimore & Ohio, concerned the abandoment of a line extending from Confluence and Oakland Junction, Pa., to Kendall, Md.

A major portion of the line will be flooded by back waters of a dam scheduled for construction by the War Department. Opponents of the abandonment, the Public Service Commission of Maryland and the McCullough Coal Corporation, a coal mining company which alleges it will be forced out of business if railroad service is discontinued, contended that the commission could not authorize the abandonment without at the same time directing the line's relocation so as to continue service to the public, because of the fact that it heretofore had been operating at a profit.

After hearing testimony on the probable cost of relocation and the probable cost of maintaining a relocated line, the commission concluded that "considering the expenditure necessarily incident to that relocation and the increased costs of operating the line that will be caused thereby, . . . we are not justified by the public convenience and necessity in taking action herein that will require the relocation of the line."

Congress Provides for New Canal Lock

The Congress this week provided the authorization for the construction of a new lock in the St. Marys River at St. Marys Falls Canal, Mich. As passed by both houses of Congress the authorization provides for a new lock about 800 ft. long, 80 ft. wide, and 30 ft. deep at St. Marys Falls Canal, Mich, together with suitable approaches thereto.

The Senate has previously passed S. 2132, introduced by Senator Brown, Democrat of Michigan, but it remained in the House rivers and harbors committee with no action being taken on it. Recently, the Senate attached a rider to another bill, H. R. 6446, which also authorized the new lock, and the House adopted the provision as a result of the legislative conference on the measure.

Despite insistent pleas by members of Congress from Michigan, the House rivers and harbors committee took no action, and charges were made that Chairman Mansfield of that committee was deliberately holding it up and planning to report it as a part of the billion-dollar omnibus rivers and harbors bill in order to gain votes for that highly-controversial measure.

Mr. Mansfield took the floor in the House on March 3 to defend himself against charges that he had deliberately held up the measure. He flatly denied that such was ever his intention and went on to justify his action in wanting to report the bill along with other projects on the ground that this was in line with the current and long-standing committee practice. Several members of both parties also defended Mr. Mansfield against the charges which have been leveled at him.

A. R. E. A. Convention Program

The American Railway Engineering Association has formulated a provisional program for its convention at the Palmer House, Chicago, on March 17-19. In an effort to make the convention of the maximum value to those in attendance in meeting the problems of the present day, efforts are being made to secure additional speakers of prominence. The program, so far as it has been completed to date, is as follows:

TUESDAY, MARCH 17

Morning Session

Convention called to order at 9:45 a. m.
Address of President F. L. C. Bond, vice-president and general manager, Central Region, Canadian National
Reports of the secretary and the treasurer
Reports of standing committees on:
- Standardization
- Signals and Interlocking
- Electricity
- Waterways and Harbors
- Economics of Railway Location and Operation

Afternoon Session

Address—What Is Expected of the Railways, by Joseph B. Eastman, Director, The Office of Defense Transportation, Office of Emergency Management
Reports of Committees on:
- Highways
- Cooperative Relations with Universities
- Water Service, Fire Protection and Sanitation

WEDNESDAY, MARCH 18

Morning Session

Reports of Committees on:
- Economics of Railway Labor
- Maintenance of Way Work Equipment
- Wood Preservation
- Roadway

Afternoon Session

Reports of Committees on:
- Ties
- Track
- Rail

Report of Investigation of Steel Rails, by Professor H. F. Moore, University of Illinois

THURSDAY, MARCH 19

Morning Session

Reports of Committees on:
- Uniform General Contract Forms
- Buildings
- Yards and Terminals
- Records and Accounts
- Iron and Steel Structures
- Wood Bridges and Trestles

Afternoon Session

Reports of Committees on:
- Clearances—Brief Oral Report
- Waterproofing of Railway Structures
- Impact
- Masonry

Closing Business

Coincident with the convention, the National Railway Appliances Association will present its thirty-first annual exhibition of materials and equipment employed in engineering and maintenance of way activities in the exhibition hall of the Palmer House adjacent to the meeting room. This exhibit will be open from Monday forenoon, March 16, to Thursday afternoon, March 19.

Tank Car Movement Sets New Record

Increasing by nearly 70,000 barrels a day over the previous week's record, tank car movement of oil into the eastern states reached the average of 326,636 barrels daily during the week ended February 21, according to an announcement by Petroleum Coordinator Harold L. Ickes. The previous high mark, established during the week ended February 14, was 256,725 barrels daily.

In establishing the new record, it was pointed out, the participating oil companies loaded 10,162 cars. On the basis of an average of 225 barrels per car, this is equivalent to 2,286,450 barrels of petroleum and petroleum products. During the previous week, 7,987 cars were loaded, or the equivalent of 1,797,305 barrels.

Meanwhile, action by the oil industry to assure an adequate supply of fuel oil for home heating along the Atlantic seaboard for the remainder of the heating season has been called for by the Office of Petroleum Coordinator. In telegrams to the heads of 15 different companies supplying the east coast market, Deputy Coordinator Ralph K. Davies requested that they immediately transfer to the domestic heating oil service all suitable tank ships now engaged in hauling gasoline from the Gulf coast, and increase tank car movements of domestic heating oils to the maximum.

Also, Mr. Ickes has commended the State of Pennsylvania and the Pennsylvania Turnpike Commission for opening the Pennsylvania Turnpike to the movement of gasoline and other petroleum products by tank truck. The commission's action, the coordinator declared, affords "a splendid example of patriotic cooperation by a state agency in the task of attempting to maintain at near normal levels, despite transportation difficulties attributable to war, the supply of petroleum products on the east coast."

Cong. Record Publicizes Waterway "Treason" Charge Against A. A. R.

A scathing denunciation of the Association of American Railroads' "lobby" which is accused of "treason" and of "giving aid and comfort to the enemy" in time of war was set out in the appendix of the Congressional Record of February 28. This bitter tirade against the carriers' efforts to defeat such waterway projects and the St. Lawrence seaway was inserted in the Record by Representative Rankin, Democrat of Mississippi, and takes the form of a memorial to Congress from the Trinity Improvement Association of Fort Worth, Tex. It is signed by one John M. Fouts, general manager of the Association.

After denouncing the railroads and the A. A. R. for a long list of alleged crimes including treason, the memorial specifically urges that an immediate investigation be ordered into:

"(1) The subversive, treasonable, and

dangerous activities of the Association of American Railroads; (2) their opposition to the extension of the transportation system of the country in wartime; and (3) their expenditure of vast sums of money in an effort to win the support of public opinion and legislation favorable to themselves and inimical to the United States."

The following are samples of the language used in the attack on the carriers:

"This huge un-American railroad lobby has for the past 15 years done its very best to strangle every transportation facility in America except its own. Spending millions of dollars secured through government loans or from excessive railway rates, this brazen political pressure group has fought to a bitter finish the development of inland waterways, highways, pipe lines, truck lines, and airways."

"This political activity in time of war definitely gives aid and comfort to the enemy. To thus deliberately sabotage America's war effort is treason. The selfish, unscrupulous, disloyal efforts of the railroads to prevent any extension of transportation facilities—except it lines their own pockets—deprives the fine young manhood of America, now in uniform, of certain delivery of food, rifles, planes, guns, tanks, the weapons wherewith they may hold their own and gain ultimate victory."

"The million-dollar rail lobby in Washington could gracefully receive, in gratitude for the services of their organization, the Iron Cross from the Nazis or from the Mikado the Order of the Chrysanthemum with its scummy yellow ribbon. Nobody in America, not excepting the fifth columnists, is serving Hitler and Hirohito half as well as are the truculent, bullying, dollar-hunting railroad corporations."

Manpower for Transportation

As the first step in a program to deal with manpower needs in the transportation industry, the Office of Defense Transportation has undertaken a detailed survey of the industry's present and anticipated labor shortages. Questionnaires drafted by the Division of Transport Personnel, after consultation with representatives of management and labor, have been submitted to rail carriers through the Association of American Railroads and the American Short Line Railroad Association. These questionnaires call for information, broken down by occupations, as to labor shortages that now exist or are anticipated by the carriers before July 1, 1942. Data is sought also on employer requests for selective service deferment on the grounds of occupation and the disposition by local selective service boards of these deferment requests. In co-operation with carrier associations, similar questionnaires will be submitted to over-the-road and local truck and bus carriers, pipeline companies, Great Lakes carriers, barge operators on rivers and canals, air transport lines, and other branches of the transportation industry.

Commenting on the labor supply survey, Joseph B. Eastman, director of defense transportation, said:

"Many employment officers in the transportation industry are seriously concerned over the problem of maintaining manpower at the level necessary to meet the demands for transportation service occasioned by the war program. Shortages of skilled mechanics are already acute in some parts of the industry. It is doubtful whether all requirements for seamen on the Great Lakes can be met when the shipping season opens this spring. Shortages of other types of transport workers are expected in the near future.

"The results of our survey are expected to show the most pressing manpower problems now facing the transportation industry. In the light of the information obtained, plans will be made by the Division of Transport Personnel looking to an expansion of the training programs that various branches of the industry have already undertaken and to recruiting of new personnel to meet the rapidly expanding need for transportation service and to replace employees diverted to the armed forces."

Cunningham Will Head Study Board's Economy and Fitness Investigation

William J. Cunningham, the James J. Hill Professor of Transportation at Harvard's Graduate School of Business Administration, has been appointed director of the Transportation Board of Investigation and Research's studies of the relative economy and fitness of the various modes of transportation.

"The program of research which Professor Cunningham will direct," the Board's announcement said, "provides for four principal studies: (1) An examination of the means and standards by which relative economy and fitness can most accurately be measured and a survey of procedures for the promotion of carrier efficiency; (2) an investigation of trends in the distribution of traffic among transport agencies in terms of total volume of traffic and by commodities or commodity groups; (3) investigation of the methods by which each type of carrier can and should be developed so that there may be provided a national transportation system adequate to meet the needs of the commerce of the United States, of the Postal Service and of the national defense; and (4) a survey of transport regulation and public policy with special reference to its influence upon the movement of traffic according to the relative economy and fitness of carriers." The announcement added that studies along each of the foregoing lines are already under way by a staff assembled for the economy and fitness investigation.

Professor Cunningham became associated with Harvard Business School in 1908 as a lecturer on railroad transportation; and he has been the James J. Hill Professor of Transportation since 1916. His railroad career, beginning in 1892, includes service with the Canadian Pacific, Boston & Albany, New York, New Haven & Hartford, Delaware, Lackawanna & Western, and Boston & Maine. He served as assistant to the president of the latter from 1914 until 1916, and during 1918-19 he was assistant director of operation for the United States Railroad Administration. He is the author of "American Railroads: Government Control and Reconstruction Policies" (1922) and the "Present Railroad Crisis" (1939). Also, he has been a contributor to professional and trade journals concerned with economics and transportation.

Warns of Coal Shortages

The upswing in bituminous coal production continued during the week ended February 21, but production levels still are not high enough to get the full benefits from the present surplus mine and transportation facilities in building up consumers' storage piles as insurance against possible fuel

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How to Save Tires—an Advertisement of the Florida East Coast at South Jacksonville, Fla., Tells Them How

shortages after the war program gets into full operation, Howard A. Gray, acting director of the Solid Fuels Coordination, has reported to Secretary of the Interior Harold L. Ickes.

The Office of Solid Fuels Coordination is urging consumers to store reserve supplies of bituminous and anthracite coal while facilities are still plentiful. There are indication, it was said, that demands upon transportation, shortages in mining supplies, effects of the draft upon labor and other disruptions caused by the war may make it difficult for consumers to get coal whenever they want it after the full force of the war program has developed.

Acting director Gray said there are certain indications that the coal supply may in certain instances tighten up earlier than previously expected. He added that there is a possibility that the increased demands for Great Lakes iron ore transportation may cause a substantial shift in coal transportation from lake vessels to the railroads. He went on to say that he is also studying the possible effects of consumers of fuel oil having to shift to the use of coal in various regions. These and other disruptions of normal activity will place new burdens upon the railroads, in addition to those that may be expected from the shortage of rubber tires for trucks, Mr. Gray pointed out.

Mr. Gray also noted that an allocation system would be an emergency step to conserve transportation by assigning production from particular fields to specific consuming areas as a means of eliminating long hauls where the coal could be supplied by mines closer to the particular market.

At the same time Mr. Ickes announced the completion of the personnel of the recently formed Industry Committee on Solid Fuels by appointment of two members to represent the public interest. The new committeemen are Dr. Walter Dill Scott, president emeritus of Northwestern University, Evanston, Ill., and the Hon. Louis Jefferson Brann, who served two terms as Governor of Maine.

As noted previously, the railroad industry is represented by J. J. Pelley, president of the Association of American Railroads, and W. C. Kendall, chairman of the Car Service Division of the A. A. R. Transportation other than railroad is represented by Lachlan Macleay, president of the Mississippi Valley Association, St. Louis, Mo.

Railroads and Shippers Fined Total of $56,000

The Interstate Commerce Commission has been advised that on February 26, in the United States District Court for the Western District of North Carolina, fines totaling $56,000 were imposed on two railroads and seven shippers upon the defendants' pleas of guilty to informations charging violations of the section 1 of the Elkins Act and section 20(7) (b) of the Interstate Commerce Act.

The Southern pleaded guilty to an information in 20 counts, 16 of which charged violations of section 1 of the Elkins Act and four of which charged falsification of the carrier's records in violation of section 20(7) (b) of the Interstate Commerce Act, and the court imposed a total fine of $20,000. The Carolina & Northwestern pleaded guilty to an information in 10 counts, nine of which charged violations of the Elkins Act and one of which charged falsification of records, and the court imposed a total fine of $10,000.

The fines imposed upon the seven shipper defendants, all of whom pleaded guilty to informations charging Elkins-Act violations, were as follows: Drexel Furniture Company, eight counts, $8,000; Bernhardt Furniture Company, six counts, $6,000; Kent-Coffey Manufacturing Company, four counts, $4,000; Morganton Furniture Company, three counts, $3,000; Hibriten Furniture Company, two counts, $2,000; Lenoir Furniture Company, two counts, $2,000; Caldwell Furniture Company, one count, $1,000.

According to I.C.C. Secretary W. P. Bartel's announcement, these cases arose through the failure of the carriers and shippers to observe and apply the provisions of Rule 34 of the Consolidated Freight Classification in respect of two cars furnished by the carriers to their respective shippers for each shipment for the loading of carload shipments of furniture.

"The carriers," Mr. Bartel continued, "failed to assess and collect, and the shippers failed to pay, freight charges based on at least the carload minimum rates and weights applicable to each car, as was required by the provisions of Rule 34 when two cars were ordered by the shipper and furnished by the carrier in compliance with such order and not for the carrier's convenience. Instead, the carriers assessed and collected freight charges based on the carload minimum weight applicable to the first car loaded, or on the actual weight if in excess of the carload minimum weight, and the carload rate based on the actual weight of the shipment loaded in the second car which was less than the carload minimum weight.

"Notations were placed on the bills of lading by the shippers which asserted that a 50-ft. car, or a larger car, was ordered by the shipper, and two 40-ft. cars, or two smaller cars, were furnished by the carrier for its convenience, when actually, the informations charged, the shippers ordered two 40-ft. cars, or two smaller cars, from the carrier, which were furnished and loaded. These notations were transcribed by the carriers, the informations charged in certain counts, to their freight waybills thereby falsifying that record."

The cases were investigated by the commission's Bureau of Inquiry which also assisted in their settlement in court.

Railroads Needed To Fight a War

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ready with their transportation plans which meshed right in with those of the railroads.

"In the 1941 revision of its technical manual on the use of rail transportation in the zone of the interior—which, for the purposes of this war so far, means the continental United States—the War Department broadly outlined these plans, so far as the Army is concerned. The 'arterial railway system' the War Department said, 'is the backbone of our . . . national defense, and all other forms of transport are for us but extensions and auxiliary services.' To that arterial railway system, therefore, the War Department turned when the great emergency for which both Army and railroads had so long planned and prepared burst upon us.

"No one railroad alone could have met the situation presented on December 7, but, as the army's technical manual points out, railroads are not called upon to meet such situations by themselves. 'The instrumentalities of transportation at the dis-

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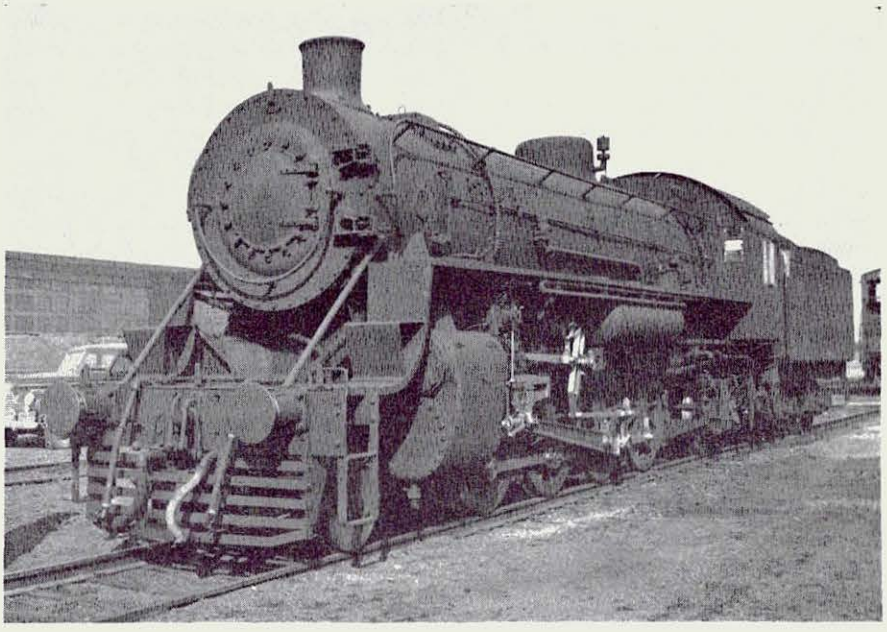

Baldwin "Mike" for the Army

This is the first to be completed of seventy 2-8-2 type steam locomotives ordered from the Baldwin Locomotive Works by the U. S. War Department three months ago (see *Railway Age* November 29, 1941, page 932 and December 13, 1941, page 1014). Designed for freight service in various parts of the world, these locomotives weigh approximately 170 tons and are 60 ft. long.

posal of a particular originating railroad,' the manual says, 'are not limited to those of its ownership alone. A railroad is permitted to use the instrumentalities of transportation belonging to other railroads with a minimum of delay and red tape.' "

"Back of this free flow and interchange of equipment there must be organization, and there is, heading up in the Association of American Railroads and especially its Car Service division. There was no like organization at the start of the last war in 1917, but the organization now in being stemmed from the experiences of that time.

"This plan of movement, under which the army and the railroads, working together, have achieved such transportation results, goes on to say that 'military requirements can best be met by means of centralized control and decentralized operations'—and so it is done. The actual execution of these great movements is carried out by close co-operation between the troop commanders and the particular railroads involved at each point.

"That co-operation is organized, so far as the railroads are concerned, through the Military Transportation Section of the Association of American Railroads, which maintains local representatives at all critical points. These local representatives are there to assist the appropriate officers of the army in connection with all rail transportation matters, passenger as well as freight. They are the direct point of contact between the army commander and the railroads which serve that point. And so it is that the American railroads are turning to the purposes of victory the principles and practices which have been developed and worked out for the peaceful processes of a continent-wide distribution of America's production.

"War demands call for a step-up in that production—for war is a great consumer as well as a great destroyer. Production has stepped up. Rail transportation has stepped up with it, and has kept pace with every demand. Ships have been taken from the Panama Canal routes, from the Atlantic and Gulf Coast routes, from the Pacific Coast, to meet the ever-growing demand for shipping to meet offshore demands, and the railroads have been able to take over the tonnage these ships once carried in coastwise and intercoastal trade. Other dislocations of transportation are in prospect from other causes, and the railroads, to the very limit of their ability, will endeavor to meet all necessary demands.

"To do so, they must be able to continue the expansion of their capacity which they started when Hitler marched into Poland. They must be able to buy the materials they need to maintain their present facilities and keep them in repair, and to add the additional cars and engines which additional demands may bring upon them. The government's Office of Defense Transportation, headed by Joseph B. Eastman, recognizes these needs, as both the railroads and the shippers do, and there is good ground to hope that they will be met.

"The fundamental capacity has already been built into the American railroads—the tracks and the terminals, the bridges and the structures, the things which take much time to build and put into service. Capacity can be increased by the comparatively quick and simple process of adding more engines and more cars, as well as maintaining what we have. Getting the materials with which to do that is the essential point in the transportation situation today—the essential point in the movement which is at the heart of this war of movement."

L. M. Betts, manager, Car Service division, Association of American Railroads, also addressed the meeting of the Southwest Shippers Advisory Board, discussing the various transportation agencies involved in our war effort. Mr. Betts said in part, "In all railroad history, there has never been witnessed so great an array of constructive forces working toward the common purpose of assuring adequate transportation service as we see today. Supporting the efficient rail organizations on one hand are the organized shippers, working through the regional advisory boards and other national organizations, and on the other hand, we find the strong arm of government, working through the Office of Defense Transportation and the Interstate Commerce Commission.

Davis Fumes but McNear Is Firm

(Continued from page 502)

Washington, D. C., that the T. P. & W. was inaugurating immediately the fastest and most complete freight service in the history of the road.

Responding to a request from the board, Mr. McNear and his attorney, Clarence W. Heyl, appeared at the hearing on February 27, to discuss what the board termed "procedure." The Brotherhood of Locomotive Firemen and Enginemen was represented by Charles M. Hay of St. Louis, Mo., while Harold C. Heiss and Donald W. Hornbeck appeared as counsel for the Brotherhood of Railroad Trainmen. David B. Robertson, president, and Walter C. Keiser, vice-president of the B. of L. F. & E., and F. W. Coyle, vice-president, and Martin H. Miller, national legislative representative of the B. of R. T. were also in attendance.

Judge Hay opened for the unions and told the board that the ultimate action must be arbitration of the issues involved, although in ordinary times the men would not be willing to arbitrate the issues of the so-called featherbed rules. He declared that the unions had three times offered to arbitrate but that the railroad had declined, and he then stated that the unions wanted to arbitrate the case under the auspices of the board. He also admitted that there had been shooting and violence on both sides and that the strike had caused "a deplorable situation."

Briefly, Mr. Heyl outlined the issues as he saw them from the viewpoint of the company. He pointed out to the board that the railroad is now paying more than was agreed upon by the railroads last December in the emergency wage increase case. It is the position of the carrier that the line is operating efficiently and economically and is delivering all the government traffic on schedule that is being offered to it. In other words, said Mr. Heyl, the carrier feels that there is nothing to arbitrate. Mr. Heyl also wanted an emergency board or an arbitration board to go into the question of featherbed rules, if such a procedure should be decided upon.

The railroad attorney, as a result of repeated questioning from the board, expressed the view that the United States district court in Peoria, Ill., is fast solving the dispute and will finally solve it when it tries a contempt of court case early this month involving some of the striking employees who are charged with violence growing out of the strike. In other words, as soon as the injunction which is in force prohibiting interference with the operation of the road is made permanent, he feels there will be no problem left to settle. Also, he told the board that the embargo now in effect on the road will be lifted as soon as the contempt case is tried.

Asked specifically whether or not the road would arbitrate, Mr. Heyl declared that he could not answer this query until he and his principal knew what issues were to be arbitrated and who was to do the arbitrating. Earlier the unions had said that they were willing to arbitrate all issues including those of featherbed rules. It was at this point that Mr. Heyl told the board that if they were willing to arbitrate, they did not want it to be carried out either by or under the auspices of the National Mediation Board because of the fact that that agency had already been active in the dispute and had failed to settle it.

After the board had recessed for several hours, it reopened its meeting to the public and announced that it had voted to order the road to arbitrate the case under section 8 of the Railway Labor Act which provides that the arbitration shall be carried out under the auspices of the National Mediation Board.

Chairman Davis asked Mr. McNear whether or not he would accept the board's decision, but Mr. McNear decided that he wanted a little time to think the matter over, and the board asked him to let it know by noon of the next day. At that time Mr. McNear had left Washington and had sent a message to the board telling it that he wanted further time to consider the matter.

Later, the board made public Mr. McNear's request for additional time and the board's reply telling him that it wanted an answer by not later than Tuesday morning, March 3. The board's telegram also said that it trusted that the answer would not be a rejection of the board's decision.

During the discussion of the board's decision to order the arbitration, the question arose as to why the board had decided that the operation of the road was vital to the war effort. Mr. McNear asked Chairman Davis who had made the recommendation to the board in view of the report that Director Eastman of the Office of Defense Transportation had refused to certify the road as necessary to the war effort. Mr. Davis then read a communication from the office of the Quartermaster General in the War Department signed by one Lieutenant

Colonel E. C. R. Lasher, which declared that the road was vital to the war effort.

Protecting Jobs in Abandonments

(*Continued from page 501*)

mission had such power and should consider the need for them in all abandonment cases.

The commission, according to Justice Black, argued that the conditions it is authorized to impose under the consolidation section—"just and reasonable" conditions, which "will promote the public interest"—are of much broader scope than the conditions it is authorized to impose under the abandonment section—conditions which "the public convenience and necessity may require."

"Although admitting," wrote Justice Black, "that provisions for the protection of displaced employees may be a condition that 'will promote the public interest,' the commission concludes that such provisions cannot be required by 'the public convenience and necessity.' We need not decide in what respects, if any, the authorization to impose conditions in consolidations is broader than the authorization to impose conditions in abandonments. For even assuming that the language of the abandonment section is narrower, we cannot agree that it excludes all power to impose conditions of the kind sought here."

After pointing out that the effect of a proposed abandonment should be considered in a "much broader sphere than the immediate locality and population served by the trackage to be abandoned," he went on to say that "if national interests are to be considered in connection with an abandonment, there is nothing in the act to indicate that the national interest in purely financial stability is to be determinative while the national interest in the stability of the labor supply available to the railroads is to be disregarded."

"On the contrary," he declared, "the Lowden (Rock Island) case recognizes that the unstabilizing effects of displacing labor without protection might be prejudicial to the orderly and efficient operation of the national railroad system. Such possible unstabilizing effects on the national railroad system are no smaller in the case of an abandonment like the one before us than in a consolidation like that involved in the Lowden case. Hence, it is only by excluding considerations of national policy with respect to the transportation system from the scope of 'public convenience and necessity,' an exclusion inconsistent with the act as this court has interpreted it, that the distinction made by the commission can be maintained."

After laying down the principle that the commission has authority to attach terms and conditions for the benefit of employees displaced by railroad abandonments, Justice Black concluded by asserting that "whether such terms and conditions should be attached in this case and if so their nature and extent are questions for the commission to decide in the light of the evidence."

Since this case was decided by the commission several similar cases have arisen in which the commission has been called upon to attach labor-protection provisions. In all these cases it has refused to assert such authority, but has retained jurisdiction until the instant case was disposed of by the Supreme Court. Presumably, it will now be necessary for Division 4, which handles abandonment cases, to reexamine all these and possibly earlier cases to determine whether or not it shall attach labor-protection conditions to the certificate of convenience and necessity.

Meetings and Conventions

The following list gives names of secretaries, dates of next or regular meetings and places of meetings:

ALLIED RAILWAY SUPPLY ASSOCIATION.—J. F. Gettrust, P. O. Box 5522, Chicago, Ill.

AMERICAN ASSOCIATION OF FREIGHT TRAFFIC OFFICERS.—W. R. Curtis, G. M. & O. R. R., 105 W. Adams St., Chicago, Ill.

AMERICAN ASSOCIATION OF GENERAL BAGGAGE AGENTS.—E. P. Soebbing, 1431 Railway Exchange Bldg., St. Louis, Mo. Annual meeting, October 6-8, 1942, Omaha, Neb.

AMERICAN ASSOCIATION OF PASSENGER TRAFFIC OFFICERS.—B. D. Branch, C. R. R. of N. J., 143 Liberty St., New York, N. Y.

AMERICAN ASSOCIATION OF RAILROAD SUPERINTENDENTS.—F. O. Whiteman, Room 332, Dearborn Station, Chicago, Ill. Annual meeting, May 12-14, 1942, Hotel Stevens, Chicago, Ill.

AMERICAN ASSOCIATION OF RAILWAY ADVERTISING AGENTS.—E. A. Abbott, Poole Bros., Inc., 85 W. Harrison St., Chicago, Ill.

AMERICAN ASSOCIATION OF SUPERINTENDENTS OF DINING CARS.—F. R. Borger, C. I. & L. Ry., 836 S. Federal St., Chicago, Ill.

AMERICAN RAILWAY BRIDGE AND BUILDING ASSOCIATION.—A. G. Shaver, 310 S. Michigan Ave., Chicago, Ill. Annual meeting, October 20-22, 1942, Hotel Stevens, Chicago, Ill.

AMERICAN RAILWAY CAR INSTITUTE.—W. C. Tabbert, 19 Rector St., New York.

AMERICAN RAILWAY DEVELOPMENT ASSOCIATION.—H. C. Millman, Ind., Agent, Pennsylvania R. R., Union Station, Chicago, Ill.

AMERICAN RAILWAY ENGINEERING ASSOCIATION.—Works in cooperation with the Association of American Railroads, Engineering Division.—W. S. Lacher, 59 E. Van Buren St., Chicago, Ill. Annual meeting, March 17-19, 1942, Palmer House, Chicago, Ill.

AMERICAN RAILWAY MAGAZINE EDITORS' ASSOCIATION.—R. R. Horner (Second Vice-Pres.), Norfolk & Western Magazine, Roanoke, Va.

AMERICAN SHORT LINE RAILROAD ASSOCIATION.—J. H. Huntt, Tower Bldg., Washington, D. C.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS.—C. E. Davies, 29 W. 39th St., New York, N. Y. Spring meeting, March 23-25, 1942, Rice Hotel, Houston, Tex. Semi-annual meeting, June 8-10, 1942, Statler Hotel, Cleveland, O. Fall meeting, October 12-14, 1942, Sagamore Hotel, Rochester, N. Y. Annual meeting, November 30-December 4, 1942, Hotel Astor, New York, N. Y.
Railroad Division, E. L. Woodward, *Railway Mechanical Engineer*, 105 West Adams St., Chicago, Ill.

AMERICAN TRANSIT ASSOCIATION.—Guy C. Hecker, 292 Madison Ave., New York, N. Y.

AMERICAN WOOD PRESERVERS' ASSOCIATION.—H. L. Dawson, 1427 Eye St. N. W., Washington, D. C. Annual meeting, April 27-29, 1943, Cincinnati, O.

ASSOCIATION OF AMERICAN RAILROADS.—H. J. Forster, Transportation Building, Washington, D. C.
- Operations and Maintenance Department.—**Charles H. Buford, Vice-President,** Transportation Bldg., Washington, D. C.
- Operating-Transportation Division.—L. R. Knott, 59 E. Van Buren St., Chicago, Ill.
  - Operating Section.—J. C. Caviston, 30 Vesey St., New York, N. Y.
  - Transportation Section.—L. R. Knott, 59 E. Van Buren St., Chicago, Ill.
  - Fire Protection and Insurance Section.—W. F. Steffens, New York Central, Room 3317, 230 Park Avenue, New York, N. Y.
  - Freight Station Section.—L. R. Knott, 59 E. Van Buren St., Chicago, Ill.
  - Medical and Surgical Section.—J. C. Caviston, 30 Vesey St., New York, N. Y.
  - Protective Section.—J. C. Caviston, 30 Vesey St., New York, N. Y.
  - Safety Section.—J. C. Caviston, 30 Vesey St., New York, N. Y.
  - Telegraph and Telephone Section.—W. A. Fairbanks, 30 Vesey St., New York, N. Y.
  - Engineering Division.—W. S. Lacher, 59 E. Van Buren St., Chicago, Ill. Annual meeting, March 17-19, 1942, Palmer House, Chicago, Ill.
  - Construction and Maintenance Section.—W. S. Lacher, 59 E. Van Buren St., Chicago, Ill. Annual meeting, March 17-19, 1942, Palmer House, Chicago, Ill.
  - Electrical Section.—W. S. Lacher, 59 E. Van Buren St., Chicago, Ill.
  - Signal Section.—R. H. C. Balliet, 30 Vesey St., New York, N. Y. Annual meeting, October 13-14, 1942, Hotel Stevens, Chicago, Ill.
  - Mechanical Division.—Arthur C. Browning, 59 E. Van Buren St., Chicago, Ill.
  - Electrical Section.—J. A. Andreuccetti, 59 E. Van Buren St., Chicago, Ill.
  - Purchases and Stores Division.—W. J. Farrell (Executive Vice-Chairman), Transportation Building, Washington, D. C.
  - Freight Claim Division.—Lewis Pilcher, 59 E. Van Buren St., Chicago, Ill. Annual meeting, April 28-29, 1942, Hotel Sherman, Chicago, Ill.
  - Motor Transport Division.—George M. Campbell, Transportation Bldg., Washington, D. C.
  - Car-Service Division.—E. W. Coughlin, Transportation Building, Washington, D. C.
- Finance, Accounting, Taxation and Valuation Department.—E. H. Bunnell, Vice-President, Transportation Building, Washington, D. C.
  - Accounting Division.—E. R. Ford, Transportation Building, Washington, D. C.
  - Treasury Division.—E. R. Ford, Transportation Building, Washington, D. C.
- Traffic Department.—A. F. Cleveland, Vice-President, Transportation Building, Washington, D. C.

ASSOCIATION OF RAILWAY CLAIM AGENTS.—F. L. Johnson, Claim Agent, Alton R. R., 340 W. Harrison St., Chicago, Ill. Annual meeting, June 17-19, 1942, Hotel Statler, Buffalo, N. Y.

BRIDGE AND BUILDING SUPPLY MEN'S ASSOCIATION.—P. R. Austin, Johns-Manville Sales Corp., Merchandise Mart, Chicago, Ill.

CANADIAN RAILWAY CLUB.—C. R. Crook, 4415 Marcil Ave., N. D. G., Montreal, Que. Regular meetings, second Monday of each month except June, July and August, Windsor Hotel, Montreal, Que.

CAR DEPARTMENT ASSOCIATION OF ST. LOUIS, MO.—J. J. Sheehan, 1101 Missouri Pacific Bldg., St. Louis, Mo. Regular meetings, third Tuesday of each month, except June, July and August, Hotel De Soto, St. Louis, Mo.

CAR DEPARTMENT OFFICERS' ASSOCIATION.—Frank Kartheiser, Chief Clerk, Mechanical Dept., C. B. & Q., Chicago, Ill.

CAR FOREMEN'S ASSOCIATION OF CHICAGO.—G. K. Oliver, 8238 S. Campbell Ave., Chicago, Ill. Regular meetings, second Monday of each month, except June, July and August La Salle Hotel, Chicago, Ill.

CENTRAL RAILWAY CLUB OF BUFFALO.—Mrs. M. D. Reed, 1840-42 Hotel Statler, McKinley Square, Buffalo, N. Y. Regular meetings, second Thursday of each month, except June, July and August, Hotel Statler, Buffalo, N. Y.

EASTERN ASSOCIATION OF CAR SERVICE OFFICERS.—J. T. Bougher, 424 W. 33rd St. (11th floor), New York, N. Y.

EASTERN CAR FOREMAN'S ASSOCIATION.—W. P. Dizard, 30 Church St., New York, N. Y. Regular meetings, second Friday of January, March, April, May, October and November, 29 W. 39th St., New York, N. Y.

LOCOMOTIVE MAINTENANCE OFFICERS' ASSOCIATION.—C. M. Lipscomb, 1721 Parker Street, No. Little Rock, Ark.

MASTER BOILER MAKERS' ASSOCIATION.—A. F. Stiglmeier, 29 Parkwood St., Albany, N. Y.

NATIONAL ASSOCIATION OF RAILROAD AND UTILITIES COMMISSIONERS.—Ben Smart, 7413 New Post Office Bldg., Washington, D. C. Annual meeting, November, 1942, Dallas, Tex.

NATIONAL RAILWAY APPLIANCES ASSOCIATION.—C. H. White, Room 1826, 208 S. La Salle St., Chicago, Ill. Exhibit in connection with A. R. E. A. Convention, March 16-19, 1942, Palmer House, Chicago, Ill.

NEW ENGLAND RAILROAD CLUB.—W. E. Cade, Jr., 683 Atlantic Ave., Boston, Mass. Regular meetings, second Tuesday of each month, except June, July, August and September, Hotel Touraine, Boston, Mass.

NEW YORK RAILROAD CLUB.—D. W. Pye, 30 Church St., New York, N. Y. Regular meetings, third Thursday of each month, except June, July, August, September, and December, 29 W. 39th St., New York, N. Y.

PACIFIC RAILWAY CLUB.—William S. Wollner, P. O. Box A, Sausalito, Cal. Regular meetings, second Thursday of each alternate month, at Palace Hotel, San Francisco, Cal., and Hotel Hayward, Los Angeles, Cal.

RAILWAY BUSINESS ASSOCIATION.—P. H. Middleton, First National Bank Bldg., Chicago, Ill.

RAILWAY CLUB OF PITTSBURGH.—J. D. Conway, 1647 Oliver Bldg., Pittsburgh, Pa. Regular meetings, fourth Thursday of each month, except June, July and August, Fort Pitt Hotel, Pittsburgh, Pa.

RAILWAY ELECTRIC SUPPLY MANUFACTURERS' ASSOCIATION.—J. McC. Price, Allen-Bradley Company, 600 W. Jackson Blvd., Chicago, Ill.

RAILWAY FUEL AND TRAVELING ENGINEERS' ASSOCIATION.—T. Duff Smith, Room 811, Utilities Bldg., 327 La Salle St., Chicago, Ill

RAILWAY SUPPLY MANUFACTURERS' ASSOCIATION.—J. D. Conway, 1647 Oliver Bldg., Pittsburgh, Pa.

RAILWAY TELEGRAPH AND TELEPHONE APPLIANCE ASSOCIATION.—G. A. Nelson, Waterbury Battery Company, 30 Church St., New York, N. Y. Meets with Telegraph and Telephone Section of A. A. R.

RAILWAY TIE ASSOCIATION.—Roy M. Edmonds, 903 Syndicate Trust Bldg., St. Louis, Mo. Annual meeting, May 6-7, 1942, Netherland Plaza Hotel, Cincinnati, O.

ROADMASTERS' AND MAINTENANCE OF WAY ASSOCIATION.—A. G. Shaver, 310 S. Michigan Ave., Chicago, Ill. Annual meeting, September 15-17, 1942, Hotel Stevens, Chicago, Ill.

SIGNAL APPLIANCE ASSOCIATION.—G. A. Nelson, Waterbury Battery Company, 30 Church St., New York, N. Y. Meets with A. A. R. Signal Section.

SOUTHERN AND SOUTHWESTERN RAILWAY CLUB.—A. T. Miller, 4 Hunter St., S. E., Atlanta, Ga. Regular meetings, third Thursday in January, March, May, July, September and November, Ansley Hotel, Atlanta, Ga.

SOUTHERN ASSOCIATION OF CAR SERVICE OFFICERS.—D. W. Brantley, C. of Ga. Ry., Savannah, Ga.

TORONTO RAILWAY CLUB.—D. M. George, P. O. Box 8, Terminal "A," Toronto, Ont. Regular meetings, fourth Monday of each month, except June, July and August, Royal York Hotel, Toronto, Ont.

TRACK SUPPLY ASSOCIATION.—Lewis Thomas, O. and C. Company, 59 E. Van Buren St., Chicago, Ill. Exhibit in conjunction with Roadmasters' and Maintenance of Way Association Convention, September 14-17, 1942, Hotel Stevens, Chicago, Ill.

UNITED ASSOCIATIONS OF RAILROAD VETERANS.—Roy E. Collins, 112 Hatfield Place, Port Richmond, Staten Island, N Y. Annual meeting, October 10-11, 1942, Baltimore, Md.

WESTERN RAILWAY CLUB.—E. E. Thulin (Executive Secretary) Room 822, 310 S. Michigan Ave., Chicago, Ill. Regular meetings, third Monday of each month, except January, June, July, August and September, Hotel Sherman, Chicago, Ill.

Supply Trade

Edwin H. Brown, manager and chief engineer of the engineer and condenser department of **Allis-Chalmers Manufacturing Company,** Milwaukee, Wis., has been elected vice-president in charge of engineering and development.

F. B. Bell, who has been president of the **Edgewater Steel Company** since its organization 25 years ago, has been elected chairman of the board of directors. Mr. Bell has been devoting most of his time to his work in the War Production Board and asked that he be relieved of the detailed duties of president. **D. S. Bell** was chosen as president of the company and J. H. Baily, D. W. McGeorge, and W. F. Carey reappointed to the offices of vice-president, secretary and treasurer, respectively. **M. A. Smith** was elected to the new office of vice-president and general manager and **J. F. Manns** as assistant secretary. D. S. Bell and W. F. Carey were also elected directors of the company.

W. Lyle McDaniel, assistant chief engineer of the **Massey Concrete Products Company,** Chicago, has been promoted to chief engineer, with headquarters at Chicago, succeeding **Earl C. Alexander,** whose death on February 9 was reported in the *Railway Age* of February 14. Mr. McDaniel is a graduate of the University of Pittsburgh, was for some years with the Pennsylvania Railroad and later with the Chicago Union Station Company. He has been with the Massey Concrete Products Company since 1920 in various sales and engineering capacities, including that of resident manager at Cleveland, Ohio. Just prior to his recent appointment he served for three years as assistant chief engineer.

Ralph Kelly, vice-president in charge of sales for the Westinghouse Electric & Manufacturing Co. since 1938, has been elected executive vice-president and a director of the **Baldwin Locomotive Works.** Mr. Kelly graduated from Harvard University in 1909 and that year began his association with Westinghouse as an apprentice in its power engineering department. He served as a lieutenant in the United States Navy during the first world war and in 1920 rejoined Westinghouse in its marine engineering division, subsequently becoming the engineering manager of the company's southwestern district with headquarters at St. Louis, Mo. He advanced to manager of that district and later to manager of the central district with headquarters at Pittsburgh, Pa. In 1934, Mr. Kelly was appointed vice-president in charge of the operating division of Westinghouse centered around east Pittsburgh, Pa., and in 1938 he became vice-president in charge of sales.

Mr. Kelly is a director of the Canadian Westinghouse Company, Ltd., as well as of a number of Westinghouse affiliates, including Bryant Electric Company and Westinghouse Electric International Company. His membership includes the National Electrical Manufacturers Association, of which he is a vice-president and a member of the Board of Governors; American Iron & Steel Institute; Electrical Manufacturers Club; Duquesne Club and Longue Vue Club of Pittsburgh, and the Harvard Club of New York.

OBITUARY

George E. Howard, formerly vice-president and sales manager of the Commonwealth Steel Company, who retired in 1930, shortly after that company was merged with the General Steel Castings Corporation, Eddystone, Pa., died at St. Louis, Mo., on February 4. Mr. Howard was born at Wapella, Ill., on January 20, 1858, and worked from 1872 until 1884 as a machinist, locomotive fireman and engineer on the Union Pacific. On the latter date he entered the hardware and agricultural implement business at Wood River, Neb., and in 1890 he became superintendent of the Scarritt Car Seat Works at St. Louis. In 1906, Mr. Howard went with the Commonwealth Steel Company as vice-president and sales manager. After the merger of this company with the General Steel Castings Corporation in 1929, he stayed on for a few months in an advisory capacity before retiring from active business.

Equipment and Supplies

Heavy Equipment Buying Once More

Large locomotive and car orders during February; building program lags

A sudden and heavy demand for motive power was the outstanding feature of the railway equipment market during February. Chiefly in demand were steam freight engines—the result being the purchase of a total of 169 locomotives for domestic service, which was more than were ordered in any corresponding February in the 1929-1942 cycle, base period of *Railway Age* equipment comparisons. Of the 169 locomotives, 85 were steam, 79 Diesel-electric and five electric. This compares with 25 locomotives ordered during the preceding month of January (15 steam and 10 Diesel-electric) and with 129 ordered in the corresponding month of February, 1941 (41 steam, 82 Diesel-electric and 6 electric).

The 85 steam locomotives ordered last month alone equal the number of such type engines ordered during the entire preceding seven months and, indeed, in only one month since January, 1930, has a larger number been ordered, namely, in November, 1936, when orders for 202 were placed. Not included in February's total are ten 4-8-4's and twelve 4-6-6-4's purchased by the Northern Pacific, ten 4-6-6-4's by the Denver & Rio Grande Western, five 4-8-2's by the Boston & Maine, and five 4-8-4's by the St. Louis Southwestern (announced elsewhere in these pages), reports of which were received too late for inclusion in February's orders, and an additional thirty 4-8-8-2's and ten 4-8-4's by the Southern Pacific, confirmation of which has not yet been received. Counting also unfilled inquiries reported in the market at the end of the month (comprising six 4-8-4's by the Wisconsin Central, ten to fifteen 4-8-4's by the Delaware & Hudson, six 4-8-4's by the Richmond, Fredericksburg & Potomac and others), the current months will probably rank as one of the most concentrated buying periods in recent locomotive history. Evidencing the carriers' urgent need of additional motive power, many of these purchases duplicate previous orders on which construction is yet to begin and are placed despite large backlogs of locomotives already on builders' books for the government and railroads—which will probably preclude delivery of much of this newly ordered equipment before 1943.

The 79 Diesel-electric locomotives ordered in February included ten freight units of 5,400 hp. and five of 4,050 hp.; two passenger units of 4,000 hp.; 23 switchers of 1,000 hp., 38 of 600 or 660 hp. and one of 25 tons.

Railroad purchasing of freight cars dur-

ing February continued under the influence of the apparent speed-up in new car deliveries and the recent action of the War Production Board granting priorities for the construction of 36,000 freight cars during the months of February to April, inclusive. The pressing demand for new rolling stock had been uninterrupted—although effectively dammed up during the last four months of 1941 by the huge backlog of unfilled orders on car builders' books, by the consequent lack of reasonable delivery dates, and by the car builders' inability to reduce this backlog substantially, due to materials shortages.

As detailed in last month's equipment summary (*Railway Age*, February 7), large numbers of freight cars were comprised in inquiries that came into the market in January, but were unfilled at the end of that month, and, as these cars were quickly placed, orders for domestic service during February mounted to 11,318 cars, largest monthly number ordered since June, 1941, and more than were purchased in any corresponding February since the 11,486 in February, 1929.

Orders were divided 11,085 by railroads and 233 by the United States War and Navy Departments, and were allocated 7,518 to contract car builders and 3,800 to the railroads' own shops. Purchases included 3,789 box, 5,850 hopper, 670 gondola, 959 flat, 25 caboose and 25 combination box and caboose cars.

With 8,479 freight cars ordered in January, 19,797 have been purchased for domestic service during the first two months of the year (19,363 by railroads and 434 by the Government), an increase of 3,043 cars over the same two months of 1941, during which the record-breaking buying wave that began in June, 1940, and ended in August, 1941, was under way.

Leading locomotive and freight car equipment purchases during February included the New York Central's expenditure of $14,000,000 for 25 heavy steam freight locomotives of the 4-8-2 type, two 4,000-hp. Diesel-electric passenger locomotives, thirty 600 or 660-hp. Diesel-electric switching locomotives, and 2,500 freight cars of various types; Atchison, Topeka & Santa Fe's $10,000,000 order for twenty 4-8-4 type steam locomotives and ten 5,400-hp. Diesel-electric freight engines; Southern's $6,500,000 purchase of 2,500 all-steel 50-ton hopper cars; and Baltimore & Ohio's $6,000,000 order for 1,000 steel 50-ton box and 1,000 steel 50-ton hopper cars. Equally noteworthy was the purchase of 30 high-speed freight locomotives of the 4-6-6-4 type by the Union Pacific, which order follows 20 of the same type purchased by this road in May, 1941, for delivery this year.

The New York, Chicago & St. Louis ordered ten 2-8-4 type freight locomotives and 125 freight cars; the Chicago, Rock Island & Pacific, 650 freight cars and 17 Diesel-electric locomotives (including five 4,050-hp. freight engines and eight 600-hp. and four 1,000-hp. switchers); the Lehigh Valley, ten 1,000-hp. Diesel-electric switchers and 500 hopper cars (50 tons); the Norfolk & Western, 1,000 box cars (50 tons), and the Reading, 1,000 steel 55-ton hopper cars. Other purchases are set forth in the accompanying table.

Largest freight car inquiries coming into the market during February but unfilled at the end of the month were Union Pacific's request for bids on 1,000 high-side 50-ton drop-bottom gondola cars and 1,000 ballast cars (50 tons) and the Denver & Rio Grande Western invitation covering 1,500 gondola cars. Similar inquiries for locomotives were detailed in the foregoing.

No passenger-train car orders were reported in February. During the month, the railroads suggested to the War Department that the government purchase a specially-designed coach for war-time use, which could be converted into a 50-ft. box car at the close of the war, and the ODT is reported to have recommended to the WPB that materials be made available for 3,000 troop-transport cars, presumably of this type.

Domestic Equipment Orders Reported in Issues of the Railway Age in February 1942

LOCOMOTIVES

Date	*Name of Company*	*No.*	*Type*	*Builder*
Feb. 7	Lake Champlain & Moriah	1	Diesel-electric Sw.	Electro-Motive Corp.
Feb. 7	Bethlehem Steel Co.	1	Diesel-electric Sw.	General Electric Co.
Feb. 7	Chicago, Rock Island & Pacific	5	Diesel-electric Freight	Electro-Motive Corp.
		8	Diesel-electric Sw.	Electro-Motive Corp.
		4	Diesel-electric Sw.	American Locomotive Co.
Feb. 14	New York, New Haven & Hartford	5	Electric Freight	General Electric Co.
Feb. 21	New York Central	25	4-8-2 Freight	Lima Locomotive Works
		2	Diesel-electric Pass.	Electro-Motive Corp.
		10	Diesel-electric Sw.	Electro-Motive Corp.
		17	Diesel-electric Sw.	American Locomotive Co.
		3	Diesel-electric Sw.	Baldwin Locomotive Works
Feb. 21	Nashville, Chattanooga & St. Louis	5	Diesel-electric Sw.	American Locomotive Co.
Feb. 21	St. Louis Southwestern	3	Diesel-electric Sw.	Baldwin Locomotive Works
Feb. 28	Atchison, Topeka & Santa Fe	10	Diesel-electric Freight	Electro-Motive Corp.
		20	4-8-4	Baldwin Locomotive Works
Feb. 28	Lehigh Valley	5	Diesel-electric Sw.	Electro-Motive Corp.
		5	Diesel-electric Sw.	American Locomotive Co.
Feb. 28	New York, Chicago & St. Louis	10	2-8-4 Freight	Lima Locomotive Works
Feb. 28	Union Pacific	30	4-6-6-4 Freight	American Locomotive Co.

FREIGHT CARS

Feb. 7	New York, Chicago & St. Louis	25	Caboose	Magor
Feb. 7	Detroit, Toledo & Ironton	50	Flat	Greenville Steel Car
		70	Gondola	Greenville Steel Car
Feb. 7	Norfolk & Western	1,000	Box	Ralston
Feb. 7	Reading	1,000	Hopper	Company Shops
Feb. 14	Southern	2,500	Hopper-coal	Pullman-Standard
Feb. 14	Pere Marquette	250	Flat	Greenville Steel Car
Feb. 14	Delaware & Hudson	12	Box	American Car & Foundry
Feb. 14	Nashville, Chattanooga & St. Louis	50	Cov. Hopper	American Car & Foundry
Feb. 14	U. S. Navy Dept.	9	Flat	American Car & Foundry
Feb. 21	New York Central	1,100	Box	Despatch Shops, Inc.
		600	Gondola	Despatch Shops, Inc.
		300	Flat	Despatch Shops, Inc.
		500	Hopper	Despatch Shops, Inc.
Feb. 21	Baltimore & Ohio	1,000	Hopper	Bethlehem Steel Co.
		1,000	Box	General American
Feb. 21	Chicago & North Western	2	Box	American Car & Foundry
Feb. 21	U. S. War Dept.	200	Box	General American
		25	Box-Caboose	General American
Feb. 21	Central of Georgia	100	Box	American Car & Foundry
Feb. 28	Lehigh Valley	500	Hopper-coal	Bethlehem Steel Co.
Feb. 28	New York, Chicago & St. Louis	50	Cov. Hopper	American Car & Foundry
		50	Flat	Pullman-Standard
Feb. 28	Nashville, Chattanooga & St. Louis	250	Hopper	Pullman-Standard
		25	Box	Pullman-Standard
Feb. 28	Chicago, Rock Island & Pacific	350	Auto-box	Pressed Steel Car
		300	Flat	Company Shops

NO PASSENGER-TRAIN CARS ORDERED IN FEBRUARY, 1942

Freight Car Building Program Lags

Toward the close of February, Joseph B. Eastman, ODT director, recommended to the WPB that materials be allocated for the construction of 130,000 freight cars during the last eight months of 1942. This car-building program, increasing by 9,000 the reported 121,000 cars originally recommended by the Association of American Railroads, comprised 10,000 refrigerator cars, 18,460 standard tank cars, 1,540 high-pressure tank cars and 100,000 other freight cars of various types. Although admittedly tentative, the size of ODT's estimate, following upon earlier action taken by the WPB granting priorities for the construction of 36,000 freight cars during the months February-April, inclusive, is expected to stimulate the hurried placing of further car orders by the carriers. Doubts have been expressed whether the WPB will allocate steel for a program of this magnitude; and also whether the car building industry could carry out so large a program, since it is being called upon to build considerable quantities of rolling stock for allied nations.

The car building program during the first two months of the year already gives evidence of lagging behind schedule and, together with complaints from the field of continued materials shortages, warrants skepticism not only as to construction during the final eight months of 1942, but also as to the 36,000 cars planned for the current three months.

Only about 8,000 cars were delivered during January, 1,000 fewer than expected, and a decrease of 400 cars under the revised total of December, 1941, deliveries. This decrease was due to a falling off in production in the plants of contract car builders from about 7,050 cars in December to 6,150 in January, which decline

was only partly offset by increased construction in railroad company shops from 1,350 in December to 1,850 in January.

The industry's plans to construct 36,000 cars during the next three months called for 10,500 during February and thereafter a gradual expansion in operations during March and April. However, preliminary estimates of construction by contract builders alone during February total but 7,800 cars.

Whether the government, in persistently failing, month after month, to make good promises of materials for urgently needed locomotives and freight cars, fully realizes the importance of keeping the railroads in condition to carry the country's defense production is still a moot question. Certainly Mr. Eastman, in designating the shortage of materials the country's No. 1 transportation problem last month, continues to be deeply concerned.

Materials for Research

Preference Rating Order P-43, which assigns a rating of A-2 for the use of specifically approved scientific research laboratories, has been extended to August 31. It was scheduled to expire on February 28.

Only research laboratories recommended by a committee of the National Academy of Sciences are permitted to use the rating assigned by this order, and each such laboratory must have a copy of the order issued to it with a serial number.

Monon to Spend $3,321,000

The 1942 budget for additions and betterments on the Chicago, Indianapolis & Louisville, calling for expenditures of $3,321,000 for road and equipment as compared to $3,859,000 in 1941, has been approved by Judge Michael L. Igoe of the Federal district court, Chicago. Of the total for 1942, $2,740,000 has been allocated for new equipment, including cars already on order; $141,000 for repairs to old equipment and $440,000 for roadbed improvements.

Illinois Central Starts Big Scrap Hunt

The Illinois Central has started a system-wide scrap hunt to round up critical materials for war use. Every mile of its lines in 14 states will be combed by scrap hunters, and all vital materials that are found which cannot be reused on the railroad will be added to shipments going into war production. The scrap hunt is being conducted by a committee of which William S. Morehead, general storekeeper, is chairman, and representatives of all material-using departments of the railroad are members.

From the beginning of the defense program, the Illinois Central has been a substantial contributor to scrap for defense purposes. In the three years 1939-1941 this road accumulated and disposed of 281,119 tons of iron and steel scrap and 1,072 tons of non-ferrous scrap materials. This was in addition to all scrap materials which were reclaimed for reuse on the railroad.

The present scrap hunt is an elaboration of this program. The scrap hunters will go over the entire railroad, paying particular attention to shops, water stations, power plants, abandoned structures and obsolete machinery, seeking materials that can be put to use to win the war. All usable parts will be reclaimed and put in the critical categories, and all parts which cannot be reclaimed will be sorted out and made ready for the scrap market.

Brake-Shoe Price Increase Rescinded

Complying with a request of the Office of Price Administration, the American Brake Shoe & Foundry Company has rescinded the recent increase in its price of brake shoes, according to Leon Henderson, OPA administrator. With the withdrawal of the $2 per net ton price advance made on January 1, 1942, the company's brake shoe prices are again at October 1, 1941, levels, Mr. Henderson said, adding that sales made at the higher prices will be adjusted to October 1 prices by refunds.

Great Northern Budget 26½ Million for 1942

Maintenance of its present plant and acquisition of new equipment will cost the Great Northern railway more than 26½ million dollars in 1942, according to the proposed maintenance, improvement and equipment program, which is contingent on the continued availability to the company of necessary materials through government priorities. By December 31, 1942, the company hopes to have in service approximately 43,400 freight cars of all types.

Equipment now on order includes 9 Diesel locomotives, which will cost approximately $2,000,000 and 1,000 50-ton box cars, construction of which will cost $3,000,000. Delivery of 2,000 50-ton box cars, ordered in 1941, has begun and is scheduled for completion by July 1. These cars will be augmented by the 1,000 box cars on this year's program. The latter equipment now is under construction in the company's shops in St. Cloud, Minn. Of the Diesel locomotives "on order," 3 will be 5,400 hp. for freight service on the Kalispell division in Montana, much of which is through the Rocky Mountains. All of the remaining 6 Diesels on order will be 1,000 hp.

Twenty-three thousand tons of new steel rails and 20,000 tons of fastenings are on order at an approximate cost of $1,500,000. The estimated expenditures for wages in connection with the proposed maintenance of way and equipment programs is $20,000,000; a substantial increase over 1941 labor costs for this work.

Executives Discuss Probable Traffic and Equipment Needs

Presidents and other executives of member roads of the Association of American Railroads met with J. J. Pelley, president of the A. A. R., at the Stevens Hotel, Chicago, on February 27, to consider the probable traffic requirements and the general equipment outlook for the railroads during the coming year. The discussion indicated that, with the co-operation of authorities at Washington in making materials available for the construction of cars and locomotives, the railroads expect to handle successfully all war traffic which may be offered. It is anticipated that 113,000 new freight cars will be delivered to the railroads by October 1, thereby increasing the total number of serviceable cars to 1,692,000, or more than enough to handle a peak fall movement of 1,000,000 car loads a week.

Mr. Pelley said that the railroads anticipate an increase of 10 to 12 per cent in freight traffic during 1942, as compared with 1941, and an increase of 20 to 22 per cent in passenger traffic during the same period. He stated that, in addition to new equipment, including passenger cars and locomotives required for handling this additional business, the railroads are making plans for the still more complete use of present equipment, intensifying maintenance operations and extending the serviceable life of equipment wherever possible. The percentage of bad order freight cars, for example, has now been reduced to 3.6 and it is anticipated that freight car retirements this year will not exceed 13,000.

The recent tight refrigerator car supply situation has been materially eased, according to discussion at the meeting, and an excellent job is now being done in transporting petroleum products to the East. In the week ending February 21, the railroads moved 327,000 barrels a day into 17 eastern states, 256,000 barrels daily in the preceding week and 223,000 in the week before that.

Tank Trucks Released

Acting on the recommendation of the Office of Defense Transportation, the War Production Board has authorized the release of tank trucks, bodies, trailers and chasis, which were frozen in the hands of manufacturers. The release applies only to vehicles intended for haulage of petroleum products.

"The freeing of railroad tank cars for essential long-haul use by the employment of trucks," said the WPB announcement, "is illustrated dramatically in the case of short hauls made from one refinery on the Eastern seaboard. Deliveries to a shipbuilding yard one mile away tied up tank cars for four days. On this run one 4,000-gal. truck will replace 15 tank cars. On a 14-mile haul, eight 5,000-gal. trailers will replace 70 tank cars in a seven-day turnaround. On another run, five 6,000-gal. tank trucks will replace 50 tank cars."

Construction of Medium Trucks Prohibited

The War Production Board has prohibited further construction of medium trucks after completion of February quotas, in order to save large quantities of critical materials, particularly rubber and steel, according to WPB announcement this week.

Production quotas established for medium trucks for March have been cancelled, and the only kind of trucks for which continued production will be permitted are those having a gross vehicle weight of 16,000 pounds or more. It is pointed out that these trucks are commonly known as trucks having a capacity of three tons or more.

Manufacturers were ordered by the WPB to make no further trucks of any size unless they can be produced from semi-fabricated

or fabricated materials which were on hand February 28. Further fabrication of material is prohibited.

The new order, which will concentrate truck production on the heavier types necessary for hauling war supplies, will not affect the recent WPB authorization for manufacturers to carry over into March certain unfinished portions of production quotas established for February. These quotas, announced last January, allows manufacturers to produce medium and heavy trucks at a rate 15 per cent higher than in February, 1941.

LOCOMOTIVES

Northern Pacific Buys 25 Locomotives

The Northern Pacific has purchased a total of 25 large road locomotives at a cost of $6,500,000 as follows: ten 4-8-4 type freight and passenger steam locomotives ordered from the Baldwin Locomotive Works; twelve 4-6-6-4 type steam Mallets ordered from the American Locomotive Company; and three 5,400-hp. Diesel-electric freight locomotives ordered from the Electro-Motive Corporation.

The Denver & Rio Grande Western has ordered ten heavy steam locomotives of the 4-6-6-4 type from the Baldwin Locomotive Works.

The St. Louis Southwestern will build five steam locomotives of the 4-8-4 type in the company's own shops. This road was reported contemplating the building of these locomotives in the *Railway Age* of February 14.

FREIGHT CARS

Canadian Roads to Buy 5,150 Cars

The Canadian National is expected to place orders for a total of 4,250 new freight cars, including 4,000 box cars of 50 tons' capacity and 250 hopper cars of 70 tons' capacity. The Canadian Pacific is also reported in the market for a total of 900 cars, including 550 box cars of 50 tons' capacity, 200 box cars of 40 tons' capacity and 150 ore cars of 75 tons' capacity.

The Atchison, Topeka & Santa Fe is inquiring for 100 60-ft. flat cars.

The Nashville, Chattanooga & St. Louis has ordered 50 covered hoppers from the American Car & Foundry Company.

The United States War Department has ordered 100 50-ton tank cars from the American Car & Foundry Co.

The Atlantic Refining Company has placed an order for eight tank cars of 40 tons' capacity for export to Brazil with the Gregg Company, Ltd.

The American Steel & Wire Co. is reported to have ordered 65 gondola cars of 70 tons' capacity from the Magor Car Corporation. The inquiry for this equipment was reported in the *Railway Age* of October 18, 1941.

The Richmond, Fredericksburg & Potomac has ordered 20 box cars of 50 tons' capacity from the Pullman-Standard Car Manufacturing Company.

The National Tube Company is reported to have placed an order for 98 gondola cars of 70 tons' capacity with the Magor Car Corporation. The inquiry for this equipment was reported in the *Railway Age* of October 18, 1941.

The Linde Air Products Company has placed an order for 39 box cars of 70 tons' capacity with the General American Transportation Corporation.

The Rubber Reserve Company has placed an order for 50 50-ton tank cars with the American Car & Foundry Co. The inquiry for this equipment was reported in the *Railway Age* of January 10.

The Chicago, Indianapolis & Louisville inquiry for 500 freight cars, reported in the *Railway Age* of Feruary 21, comprises the following: 200 50-ton box cars, 200 50-ton hopper cars, and 100 70-ton flat cars.

The Nashville, Chattanooga & St. Louis has placed an order for 50 high-side gondola cars of 50 tons' capacity with the Bethlehem Steel Company. This road still has unfilled inquiries out for 25 65-ft. 70-ton mill-type gondola cars or 50 52½-ft. 70-ton mill-type gondola cars. The inquiry by this road for 450 freight cars, of which 375 have now been ordered, was reported in the *Railway Age* of February 21.

SIGNALING

The Texas & Pacific has placed an order with the General Railway Signal Company for a 128-lever Model 2 interlocker, having 115 working levers and 13 spare spaces, for installation at Fort Worth, Tex. The order includes 319 Type-B1 and B2 relays mounted on 7 relay panels, 2 Type-D, two-position, color-light signals, 46 Type-MD dwarf signals, 3 Type-SA high signals, and 14 Type-SA dwarf signals, together with other necessary materials.

The Baldwin Locomotive Works has placed a contract with the General Railway Signal Company for an intermittent inductive auto-manual train control equipment.

The Galveston, Houston & Henderson has placed an order with the General Railway Signal Company covering materials for the rehabilitation of a 36-lever Saxby & Farmer interlocker at Tower A, Galveston, Tex. The order includes 9 Type-MD dwarf signals, 5 Type-SA dwarf and 4 Type-SA high signals, 9 factory-wired relay cases, necessary Type-K relays to add track circuits, route and approach locking, as well as Type-K lever locks, lever circuit controllers, and an illuminated track indicator.

Financial

Atlantic & North Carolina.—*Notes.*—Division 4 of the Interstate Commerce Commission has further modified its report and order of June 27, 1941, so as to authorize this company to issue at par $125,000 of 10-year, three per cent promissory notes; $30,000 of 10-year, two per cent promissory notes; and $45,000 of five-year, three per cent promissory notes, the proceeds to be used for the purposes set forth in the second supplemental report, details of which were given in the *Railway Age* of January 31, page 318.

Chicago, Indianapolis & Louisville.—*Reorganization.*—A further hearing on a plan of reorganization for this company under section 77 of the Bankruptcy Act will be held in Washington, D. C., on May 5, before Examiners H. H. Wilkinson and Milo H. Brinkley of the Bureau of Finance, according to an announcement made this week by Interstate Commerce Commission Secretary W. P. Bartel. The announcement states that the hearing is to be held for the purposes of receiving evidence on the plan of reorganization filed by the protective committee for the debtor's refunding mortgage gold bonds, evidence to bring the record of the debtor's operations down to date, and such other evidence as will assist in a reconsideration of the record heretofore made before the commission.

Chicago, Milwaukee, St. Paul & Pacific.—*Trackage Rights.*—This company has been authorized by Division 4 of the Interstate Commerce Commission to acquire trackage rights over a portion of the line of the Baltimore & Ohio from a point of connection with the former's line and the B. & O. at West Dana, Ind., to the Wabash River Ordnance Works, being constructed by the federal government, 3.5 miles.

Chicago, Milwaukee, St. Paul & Pacific-Chicago, Rock Island & Pacific-Kansas City Southern.—*Construction, Abandonment and Joint Operation.*—Acting on a petition of the Railway Labor Executives Association asking for reargument and reconsideration by the entire commission, that agency, through Commissioner Porter, has extended until its further order the certificate and order in Finance Docket No. 13085. The case concerns the authority recently granted to these companies to enter into joint agreements involving new construction, joint operation under trackage rights, and abandonments in Kansas City, Mo., and Kansas City, Kans., the effect of which would be to give them a better entrance into Kansas City, Mo., details of which were set out in the *Railway Age* of February 7, page 357.

Chicago & North Western.—*Awards Equipment Trust Certificates.*—A syndicate headed by the First Boston Corporation was the successful bidder on $3,750,000 worth of equipment trust certificates of the Chicago & North Western for the purchase of 1,750 units of freight equipment, awarded on February 25. The First Boston Corporation offered a coupon rate of 2½

per cent. The purchase price was 100.284. Associated with the First Boston Corporation in making the bid were Harriman Ripley & Co., F. S. Moseley & Co., and Kidder, Peabody & Co. Invitations for bids on this issue of equipment trust certificates were reported in the *Railway Age* of February 21.

CHICAGO & NORTH WESTERN.—*Abandonment.*—This company will not be permitted to abandon a branch line extending from near Sanborn, Minn., in a general northwesterly direction to Wanda, 8.2 miles, if Division 4 of the Interstate Commerce Commission adopts a recommended report of its Examiner A. G. Nye. Examiner Nye would have the finding of Division 4 made without prejudice to the right of the company to renew the application after the expiration of one year if it can be shown then "with reasonable certainty that such operation can be conducted only at a loss."

"The record," declared the examiner, "shows a narrow margin between revenues and costs of operation, and the protestants might well take notice that their failure to patronize the line in the future will result in its eventual abandonment. They should be given an opportunity, however, to demonstrate their willingness and ability to furnish sufficient traffic to warrant its retention."

COLORADO & SOUTHERN.—*Reorganization.*—This company has asked the Interstate Commerce Commission to approve a plan whereby the Reconstruction Finance Corporation would assent to a proposal for the reduction of bond interest and the extension of maturities, details of which were given in the *Railway Age* of September 27, 1941, page 499. In addition to the securities set out in the plan which the RFC will extend the maturity date of, that agency is also requested to extend for a period of 10 years, or not beyond January 1, 1955, a promissory note of $4,182,091 of the Ft. Worth & Denver Northern, due May 1, 1945, and pledged with the R. F. C.

DENVER & RIO GRANDE WESTERN.—*Abandonment.*—This company has asked the Interstate Commerce Commission for authority to abandon its Orient branch extending from the main line at Villa Grove, Colo., to Orient, eight miles.

GREENE COUNTY.—*Abandonment.*—This company has been authorized by Division 4 of the Interstate Commerce Commission to (1) abandon its entire line of railroad, extending from Monroe, Ga., to Apalachee, 18.9 miles, and (2) abandon operation under trackage rights over 0.8 mile of line of the Central of Georgia in Morgan County, Ga.

MINNEAPOLIS, NORTHFIELD & SOUTHERN.—*Stock.*—This company has been granted authority by Division 4 of the Interstate Commerce Commission to issue $705,000 of common capital stock, consisting of 7,050 shares of a par value of $100 a share, to be distributed as a stock dividend.

NEVADA COPPER BELT.—*Purchase and Operation.*—The Nevada Copper Belt Railway, a recently-organized company, has been authorized by Division 4 of the Interstate Commerce Commission to purchase and operate the properties of the Nevada Copper Belt Railroad. At the same time the new company was given authority to issue $104,580 of common capital stock, consisting of 10,458 shares of a par value of $10 a share, in connection with the purchase, at foreclosure sale, of the properties formerly owned by the old company.

NEW YORK, ONTARIO & WESTERN.—*Acquisition.*—This company has asked the Interstate Commerce Commission for authority to purchase the steam railroad properties of the Utica, Clinton & Binghamton, extending from Randallsville, N. Y., to Utica, 31.1 miles. In the same application the company also seeks authority to modify a sub-lease of the properties of the Rome & Clinton. The New York, Ontario & Western will pay $250,000 for the property, making payments of $25,000 a year over a 10-year period.

The application states that this company and the Delaware & Hudson, which leases the Rome company, propose to enter an agreement by which the sub-lease of the railroad property of the Utica company and the Rome company will be modified by cancellation thereof as to the steam railroad property of the Utica company and by fixing the value of the use and occupation of the property of the Rome company at the annual sum of $5,000, plus taxes.

NORFOLK & WESTERN.—*Abandonment.*—This company has asked the Interstate Commerce Commission for authority to abandon its Narrows branch extending from Bastian, Va., to Suiter, 4.2 miles.

PIOCHE PACIFIC.—*Abandonment.*—Division 4 of the Interstate Commerce Commission has dismissed for want of jurisdiction this company's application in Finance Docket No. 13633 for authority to abandon its entire line extending from No. 1 mine to the Union Pacific Terminal at Pioche, Nev.

READING.—*Abandonment by the Mine Hill & Schuylkill Haven.*—The Mine Hill & Schuylkill Haven and the Reading, respectively, have been authorized by Division 4 of the Interstate Commerce Commission to abandon various segments of lines leading to collieries, and the operation thereof, totaling 5.9 miles, all in Schuylkill County, Pa.

SMOKY MOUNTAIN.—*Abandonment.*—Acting on this company's request, Division 4 of the Interstate Commerce Commission has dismissed its application for authority to abandon its entire line extending from Sevierville, Tenn., to Vestal, and to abandon operation under trackage rights over a line of the Southern between Vestal, Tenn., and Knoxville.

SOUTHERN PACIFIC.—*Abandonment by the San Diego & Arizona Eastern.*—The San Diego & Arizona Eastern has asked the Interstate Commerce Commission for authority to abandon its Lakeside branch extending from El Cajon, Calif., to Santee, 3.2 miles.

SOUTHERN PACIFIC.—*Equipment Trust Certificates.*—This road awarded a $5,660,000 issue of equipment trust certificates on March 3 to Salomon Brothers & Hutzler and associates, on a bid of 100.009 for 2½s. The certificates mature in one to ten years. A part of the last five maturities were reoffered to the public, the prices ranging from 2.35 per cent to 2.90 per cent, according to maturity.

UNION PACIFIC.—*Abandonment by the Oregon Short Line.*—Finding that the line in question was a spur track, Division 4 of the Interstate Commerce Commission has dismissed for want of jurisdiction an application of the Oregon Short Line and the Union Pacific, respectively, seeking authority to abandon the Evona branch and the operation thereof extending from Mile Post 2.621 to Mile Post 3.779, where connection is made with the main line, 1.2 miles, all in Weber County, Utah.

Average Prices of Stocks and Bonds

	Mar. 3	Last week	Last year
Average price of 20 representative railway stocks..	28.04	28.22	29.01
Average price of 20 representative railway bonds..	65.81	65.94	62.15

Dividends Declared

Lackawanna R. R. of New Jersey, $1.00, quarterly, payable April 1 to holders of record March 13.

Pittsburgh, Ft. Wayne & Chicago.—$1.75, quarterly; Preferred, $1.75, quarterly, both payable April 1 to holders of record March 20.

Reading Company.—2nd Preferred, 50¢, quarterly, payable April 9 to holders of record March 19.

Union Pacific—$1.50, quarterly; Preferred, $2.00, semi-annually, both payable April 1 to holders of record March 9.

Construction

PENNSYLVANIA.—With the amount of freight traffic handled over its Elmira division constantly increasing, the Pennsylvania will shortly start work on the construction of a large new addition to its Southport classification yard, south of Williamsport, Pa., designed to increase its capacity over 40 per cent. The railroad shop at the foot of Herrick street, which has been there since 1901, will be completely removed to make way for the new trackage of the freight yard. It will be replaced by a modern one-story structure, located immediately adjacent to the engine-house and carpenter shop. This building, 90 ft. by 40 ft., will be supported by an open car repair yard consisting of three tracks with a capacity of 45 cars. Electric power for the operation of the shop machinery will be used throughout.

In the Southport yard proper, eleven new tracks in addition to new connections and the re-arrangement of some of the existing tracks are included in the improvement program. It will require over 20,000 cu. yds. of grading and filling and 35,000 lin. ft. of tracks. A new track with a capacity of 25 cars will be provided for cleaning freight cars arriving and departing from the Elmira district.

The construction work, estimated to cost approximately $200,000, will be done by local railroad forces, under the general supervision of L. B. Young, division engineer. The work is expected to be completed and the new facilities in service within about three months.

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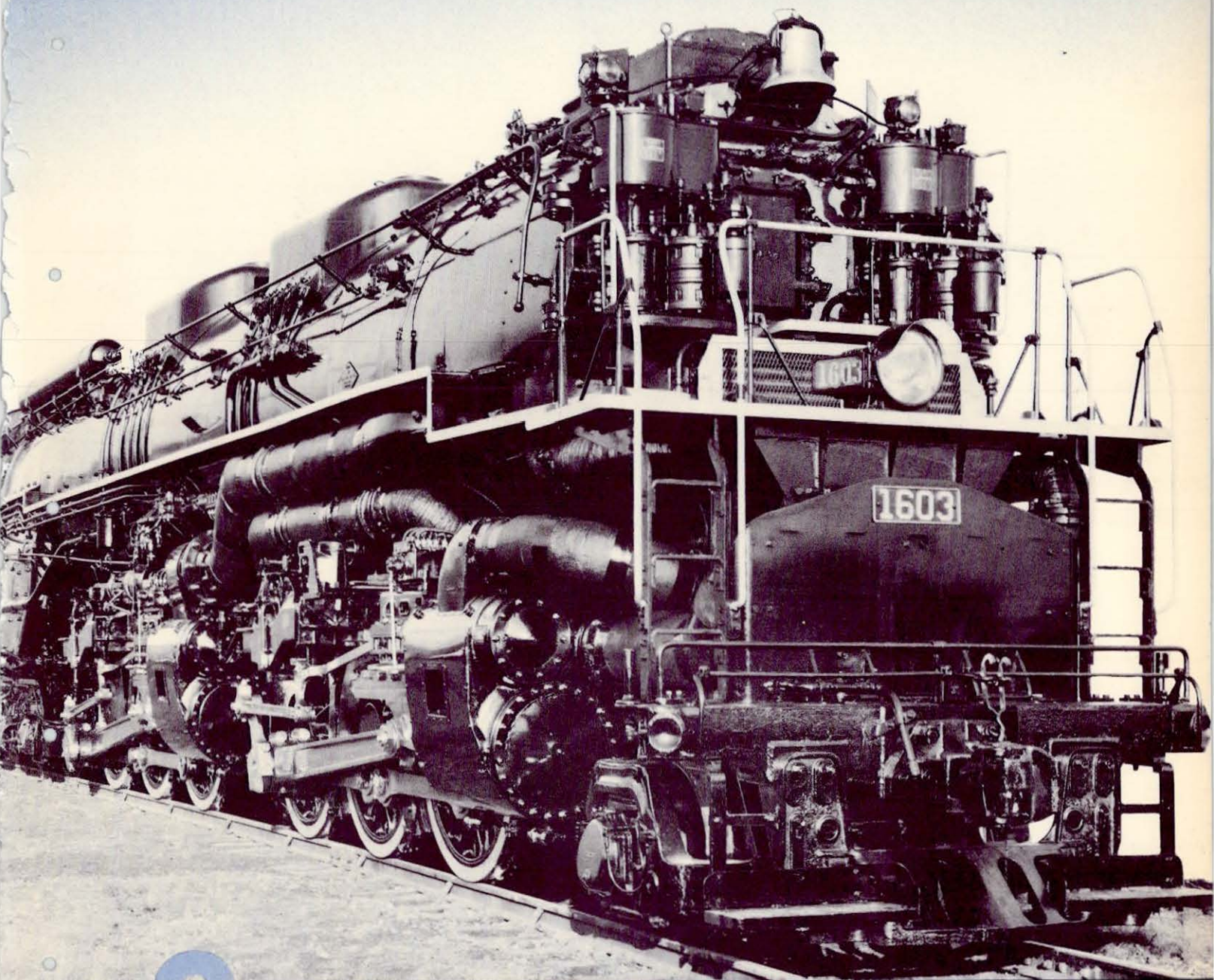
PRESENTING

The Latest

MODERN SUPER STEAM POWER

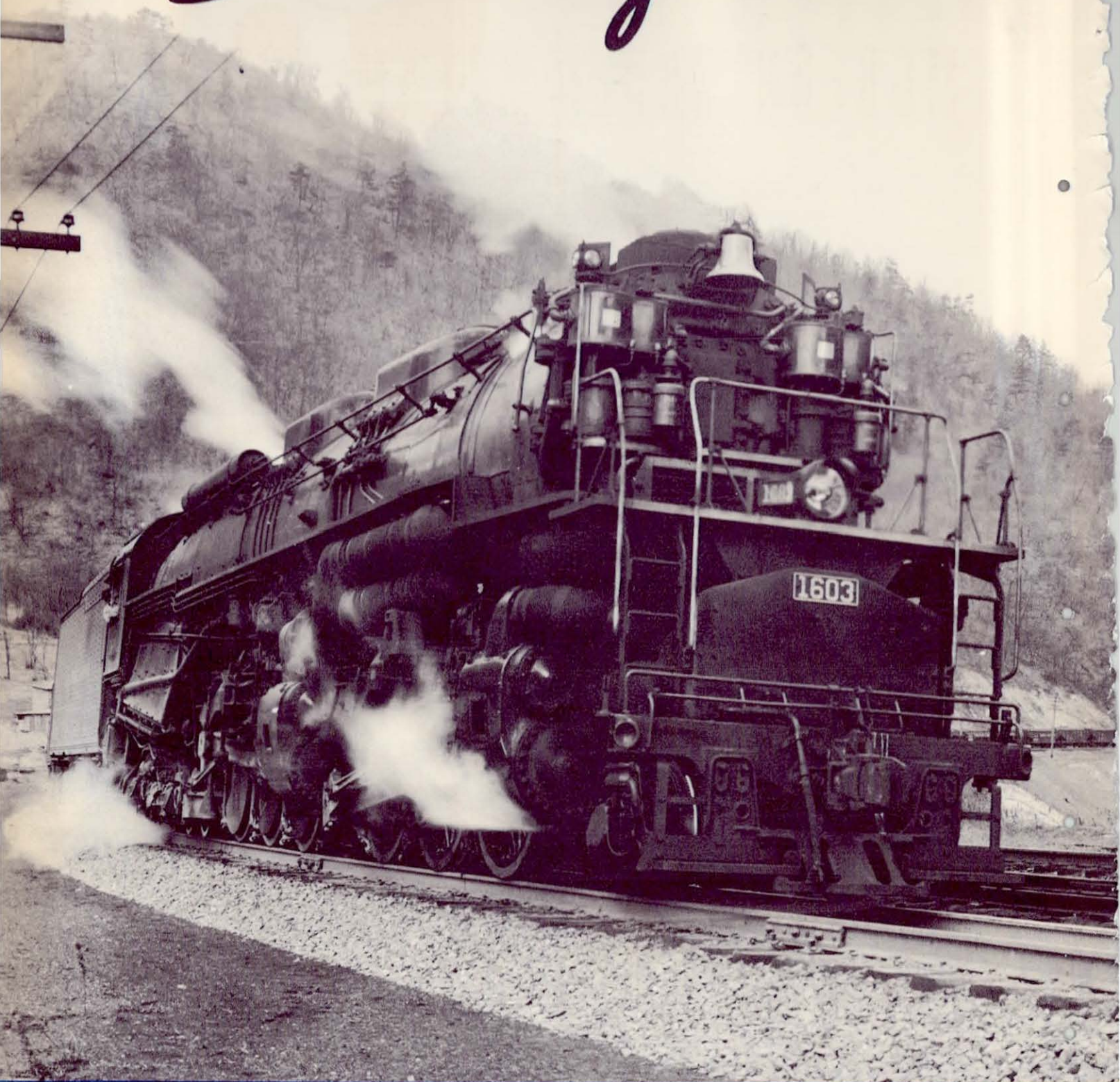


C AND O

"ALLEGHENY TYPE"

2-6-6-6 Mallet

Built by LIMA.



LIMA LOCOMOTIVE WORKS,

for the....

One of the ten 2-6-6-6 type articulated mallets, which have been christened the "Allegheny Type," and which were recently delivered by Lima to the Chesapeake & Ohio Railway. This marks the inauguration of a fleet of locomotives entirely new in design. The ordering of this radically different type of Super Steam Power by the C&O is indicative of the steps being taken by railroads all over the country in ordering Modern Power that is designed to meet today's demands for heavier loads hauled at higher speeds. » » This new fleet of "Allegheny Type" locomotives is being used by the Chesapeake & Ohio to speed up freight transportation by increasing train loads and reducing the running time over the steep grades of the Allegheny Mountains, without the use of helper engines. In addition to the original order for ten locomotives, the Chesapeake & Ohio has placed an additional order with Lima for ten more "Allegheny Type" locomotives that will be exact duplicates of those recently delivered.

LIMA
LOCOMOTIVE WORKS
INCORPORATED

INCORPORATED, LIMA, OHIO

SPECIFICATIONS of "ALLEGHENY TYPE"

2-6-6-6 Mallet

WEIGHT IN WORKING ORDER, POUNDS				
On Drivers	Engine Truck	Trailing Truck	Total Engine	Tender ⅔ Capacity Loaded
471,000	64,500	189,000	724,500	341,600

WHEEL BASE			TRACTIVE EFFORT	FACTOR OF ADHESION
Driving	Engine	Engine & Tender	Main Cylinder	
34'-8"	62'-6"	112'-11"	110,200 lbs.	4.27

BOILER		CYLINDERS, 4		DRIVING WHEEL
Diameter	Pressure	Diameter	Stroke	Diameter
100-9/16" O.D. at Front	260 lbs.	22½"	33"	67"

LIMA LOCOMOTIVE WORKS INCORPORATED

Railway Officers

EXECUTIVES

W. M. Dutton, general manager of the Mississippi Export Railroad, has been elected vice-president and general manager, with headquarters as before at Moss Point, Miss.

FINANCIAL, LEGAL AND ACCOUNTING

John Raymond Pritchard, whose appointment as secretary of the Norfolk Southern at Norfolk, Va., was reported in the *Railway Age* of January 31, was born on January 9, 1886, at Norfolk county, Va. Mr. Pritchard attended the public and private schools of Norfolk and entered railroad service on December 2, 1906, as a stenographer in the office of the general superintendent of the Norfolk Southern. A few months later he became secretary to the general superintendent and in 1910

John Raymond Pritchard

he was appointed clerk and stenographer in the executive offices. In 1912 he became secretary to the president, later becoming chief clerk. On May 19, 1925, he was elected assistant secretary of the Norfolk Southern, holding this position until July, 1932, when the road was placed in receivership, at which time he became insurance and tax agent, the position he held until reorganization of the new Norfolk Southern.

Roy M. Culp, assistant secretary and assistant treasurer of the St. Louis-San Francisco, has been promoted to treasurer and assistant secretary, with headquarters as before at St. Louis, Mo., succeeding **Leonard Oliver Williams,** treasurer and secretary, who retired on March 1. **L. O. Humphreys,** assistant to the treasurer, has been advanced to secretary and assistant treasurer and **Henry N. Heilman,** cashier, has been promoted to assistant treasurer-cashier.

Mr. Williams was born at Wakefield, Mass., on June 25, 1874, and entered railway service in March, 1892, as a clerk in the office of the treasurer of the Lynn & Boston Street Railway, Lynn, Mass. On May 27, 1898, he went with the Ft. Worth & Rio Grande (at that time a subsidiary of the Frisco, now leased to the Gulf, Colorado & Santa Fe) as treasurer at Ft. Worth, Tex. On March 21, 1902, Mr. Williams was appointed also treasurer of the Red River, Texas & Southern (also part of the Frisco), being on July 1, 1904, appointed secretary and treasurer of the Ft. Worth & Rio Grande and the St. Louis, San Francisco & Texas (also part of the Frisco), with headquarters at Ft. Worth. On May 11, 1910, he was elected assistant secretary and assistant treasurer of the Frisco, with headquarters at St. Louis, and in December, 1931, he was elected treasurer and secretary, which position he held until his retirement.

OPERATING

J. S. Webb has been appointed assistant superintendent of signals of the Atlantic Coast Line, with headquarters at Wilmington, N. C.

W. H. Harris has been appointed trainmaster of the Rochester division of the New York Central and **W. R. Main** has been appointed assistant trainmaster of the Hudson and Mohawk divisions.

J. M. Dawson, trainmaster on the Illinois Central at Markham (Chicago) yard, has been transferred to the New Orleans Terminal division, with headquarters at New Orleans, La.

J. F. Meyers, special representative of the general manager on the Canadian National at Winnipeg, Man., has been appointed assistant superintendent at Fort Rouge, Man., succeeding **A. Roy Banner,** whose transfer to Port Arthur, Ont., was reported in the *Railway Age* of January 24.

H. L. Bell, division engineer of the Victoria division of the Southern Pacific Lines in Texas and Louisiana, with headquarters at Victoria, Tex., has been promoted to assistant superintendent of that division, with the same headquarters, succeeding **R. de Waal,** who has been transferred to the Dallas and Austin divisions, with headquarters at Ennis, Tex., and Austin. Mr. de Waal relieves **K. P. Chinn,** whose promotion to assistant purchasing agent at New Orleans, La., is reported elsewhere in these columns.

Ralph A. Cox, general manager of the Midwest department of the Railway Express Agency at Omaha, Neb., has been transferred to the Northeastern department, with headquarters at Boston, Mass., succeeding **H. C. Trombly,** retired. **John J. Dowling,** general superintendent of transportation in the Eastern departments, at New York, has been promoted to general manager of the Midwest department at Omaha, succeeding Mr. Cox. **W. G. White,** superintendent at Philadelphia, Pa., succeeds Mr. Dowling as general superintendent of transportation at New York. **C. G. McDowell,** superintendent of the Office division at New York, has been transferred to the Philadelphia division, succeeding Mr. White. **W. H. Hoffman,** superintendent at Boston, has been transferred to the Office division at New York, succeeding Mr. McDowell. **George A. Colligan** has been appointed superintendent of the North Shore-Maine division at Boston, succeeding Mr. Hoffman.

E. R. Gaither, chief clerk in the car service department of the Baltimore & Ohio

E. R. Gaither

has been appointed superintendent of car service, with headquarters at Baltimore, Md., succeeding **John Hewes, Jr.,** who has been granted a leave of absence to accept service in the Quartermaster department of the United States Army at Washington, D. C. Mr. Gaither entered the service of the Baltimore & Ohio in July, 1900, in the car service department. He was appointed assistant chief clerk of that department on October 1, 1910, and on July 1, 1941, he became chief clerk.

Charles M. Bowling, assistant trainmaster on the Louisville & Nashville at Latonia, Ky., has been promoted to superintendent of safety, with headquarters at

Charles M. Bowling

Louisville, Ky., succeeding **Earle G. Evans,** whose death on February 8 was reported in the *Railway Age* of February 14, and **Curtis Dilley,** chief clerk of the safety department and safety editor of the L. & N. magazine, has been promoted to assistant to the superintendent of safety.

Mr. Bowling was born at Longdale, Va., and entered railway service on November

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7, 1901, as a locomotive fireman on the L. & N. at Covington, Ky. He later served as locomotive engineer, as assistant trainmaster at Paris, Ky., and as inspector of safety at Birmingham, Ala., Corbin, Ky., and Paris, Ky. On June 16, 1941, he was appointed assistant trainmaster at Latonia.

Donald F. Stevens, general superintendent of transportation of the Baltimore & Ohio, with headquarters at Baltimore, Md., has been appointed general manager of the New York properties of the road, succeeding **William G. Curren,** whose appointment as associate director of the Division of Railway Transport, Eastern Region, Office of Defense Transportation, is noted elsewhere in this issue. **William C. Baker,** superintendent of the Akron division at Akron, Ohio, has been promoted to general superintendent of transportation at Baltimore, succeeding Mr. Stevens. **John Edwards, Jr.,** superintendent of the Cumberland (Md.) division, has been transferred to the Akron division, succeeding Mr. Baker. **Paul K. Partee,** superintendent of the Baltimore Terminal division, has been transferred to the Baltimore division, succeeding **Harry F. Wyatt,** who has been transferred to the Cumberland division, to succeed Mr. Edwards. **William M. Murphey** trainmaster of the Baltimore Terminal division, has been promoted to superintendent of

William C. Baker

that division, succeeding Mr. Partee. **W. F. Cochrane,** assistant trainmaster of the Baltimore Terminal division, has been promoted to trainmaster of that division, succeeding Mr. Murphey.

Mr. Baker entered the service of the Baltimore & Ohio in April, 1906, as clerk at Baltimore, Md., and on September 12, 1912, he became secretary to the general superintendent. On May 28, 1917, he was appointed assistant trainmaster at Cumberland and on February 1, 1924, he became trainmaster at Connellsville, Pa. He was promoted to assistant superintendent of the Baltimore division at Baltimore on September 1, 1926, and on February 21, 1929, he was transferred to Washington, Ind. On November 1, 1929, he was promoted to superintendent of the St. Louis division, becoming superintendent of the consolidated St. Louis-Ohio division on May 1, 1932. He was transferred to Akron as superintendent of the Akron-Chicago division on November 1, 1936.

Mr. Murphey entered the service of the Baltimore & Ohio as car record clerk at Philadelphia on April 19, 1916, and served as brakeman from July 16, 1918, until March 16, 1923, when he was appointed

William M. Murphey

general yardmaster at Wilsmere, Del. On September 21, 1926, Mr. Murphey was advanced to assistant terminal trainmaster at Philadelphia, Pa., and on July 20, 1937, to terminal trainmaster at Baltimore.

TRAFFIC

The title of **John H. Andrews,** division freight and passenger agent of the Southern at Raleigh, N. C., has been changed to division freight agent.

H. L. Porter, division passenger agent on the Baltimore & Ohio at Pittsburgh, Pa., has been promoted to assistant general passenger agent at Cincinnati, Ohio., succeeding **Thomas J. West,** who retired from active service on March 1.

W. D. Burch, assistant executive general agent for the Kansas City Southern-Louisiana & Arkansas lines at New Orleans, La., has been promoted to executive general agent, with the same headquarters succeeding **W. Noel Adams,** whose death on February 16 was reported in the *Railway Age* of February 28.

Paul R. Kasson, county agricultural agent for Bowman County, N. D., has been appointed agricultural agent on the Chicago, Milwaukee, St. Paul & Pacific, with headquarters at Chicago, succeeding **William C. Spurling,** who has been called to service as a first lieutenant in the Officers Reserve Corps at Camp Robinson, Ark.

W. Lynn Bailes, division freight agent on the Chesapeake & Ohio at Richmond, Va., has been promoted to assistant to the general freight traffic manager, with the same headquarters, a newly created position. **D. L. O'Connor,** general agent at Cleveland, Ohio, has been appointed division freight agent at Richmond, succeeding Mr. Bailes, and **W. F. Kruse,** general agent at St. Louis, Mo., has been transferred to Cleveland, replacing Mr. O'Connor. **C. M. Byers,** commercial agent at Lynchburg, Va., has been appointed general agent at St. Louis, relieving Mr. Kruse. **Charles R. Warren,** general agent at Charlotte, N. C., has been appointed division freight agent at Columbus, Ohio, and **Porter Wimbish** has been appointed general agent at Charlotte, succeeding Mr. Warren.

Roy A. Burns, division freight and passenger agent on the Chicago, Milwaukee, St. Paul & Pacific at Aberdeen, S. D., has been promoted to general agent at St. Paul, Minn., succeeding **D. M. McGeen,** whose death on February 9 was reported in the *Railway Age* of February 14. **Milton M. Wolverton,** city freight agent at Kansas City, Mo., has been advanced to division freight and passenger agent at Aberdeen, relieving Mr. Burns.

Andrew L. Kreamelmeyer, assistant to the chief traffic officer of the St. Louis-San Francisco, with headquarters at St. Louis, Mo., has been appointed traffic manager, with headquarters at Kansas City, Mo., succeeding **W. L. Huggins, Jr.,** who has accepted a commission in the United States Navy. A photograph and biography of Mr. Kreamelmeyer were published in the *Railway Age* of January 17, following his promotion to assistant to the chief traffic officer.

Leslie A. Fonger, whose promotion to general freight agent on the Canadian Na-

Leslie A. Fonger

tional, with headquarters at Winnipeg, Man., was reported in the *Railway Age* of February 21, was born at St. George, Ont., on December 23, 1892, and entered railway service in May, 1907, serving in various clerical positions in the freight office of the Canadian Pacific at Guelph, Ont., until August, 1912, when he went with the Canadian Northern (now part of the Canadian National). From August, 1912, to 1915 he served in various clerical positions in the general freight office at Winnipeg and on the latter date he was promoted to chief clerk. In October, 1920, Mr. Fonger was advanced to division freight agent at Port Arthur, Ont., and was transferred to Saskatoon, Sask., in April, 1923, and to Edmonton, Alta., in December, 1933. On May 16, 1939, he was promoted to assistant general freight agent at Winnipeg, which position he held until his recent promotion, effective February 1.

C. V. Harrow, division freight agent on the Erie at Rochester, N. Y., has been

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THE PROGRESS REPORT OF THE RAILROAD DIVISION OF THE A.S.M.E. FOR 1940-41 STATES:

"... indicated horsepower of 4100 at 100 mph"

"The disclosure of the results of laboratory and road tests of this locomotive*, equipped with the Franklin (oscillating-cam poppet-valve) system of steam distribution, is an outstanding event of the current year. In road tests, the locomotive, which has two 27-in. x 28-in. cylinders, 205 psi working pressure, and 80-in. drivers, developed a maximum horsepower of 2980 at 60-65 mph. Compared with the results of the A.A.R. passenger-train tests, previously reported in this series of papers, the gain in drawbar horsepower was 24 per cent at 60 mph, 33 per cent at 70 mph, and 44 per cent at 80 mph. With a 1000-ton train on level track, the poppet-valve engine attained 88 mph, and the original engine 78.5 mph. In general, the road tests showed the capability of the poppet-valve locomotive to meet the fastest schedules on the fast Fort Wayne-Chicago Division with trains of 13 cars. On the test plant, the locomotive developed a maximum indicated horsepower of 4267 at 75 mph and 4100 at 100 mph. With a steam consumption of 70,000 lb, the engine used about one seventh less steam per indicated horsepower at moderate speeds, and the improvement in economy increased to more than 30 per cent at 100 mph."

*The well-known K-4 Class of the Pennsylvania Railroad.

THE FRANKLIN SYSTEM OF Steam Distribution

FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK CHICAGO

***In Canada:* FRANKLIN RAILWAY SUPPLY COMPANY, LIMITED, MONTREAL**

promoted to assistant general freight agent at Chicago, succeeding to the duties of **C. D. Turner,** general agent at that point, whose death on February 1 was reported in the *Railway Age* of February 7. **H. G. Cooke,** general agent at Albany, N. Y., has been appointed division freight agent at Rochester, relieving Mr. Harrow, and **C. R. Martin,** division freight agent at Youngstown, Ohio, has been appointed general agent at Albany, replacing Mr. Cooke. **J. V. Scanlon,** commercial agent at Chicago, has been promoted to division freight agent at Youngstown, succeeding Mr. Martin.

H. E. Dixon, assistant general passenger agent on the Wabash, with headquarters at Chicago, has been promoted to general passenger agent, with headquarters at St. Louis, Mo., succeeding **Louis A. Blatterman,** who retired from active service on March 1. **L. W. Bade,** assistant passenger traffic manager, with headquarters at St. Louis, has been transferred to Chicago and **E. P. Soebbing,** general agent, mail, baggage and express traffic, at St. Louis, has been promoted to assistant general passenger agent at that point.

Mr. Blatterman was born at St. Louis on February 11, 1872, and entered railway service in 1887 as a messenger for the Missouri Pacific, later being advanced to excursion clerk and rate clerk in the passenger department. In 1900 he went with the Wabash as a rate clerk, later being promoted successively to chief clerk and chief rate clerk. In March, 1920, Mr. Blatterman was promoted to general passenger agent, with headquarters at St. Louis, which position he held until his retirement.

MECHANICAL

E. L. Frazier, Jr., has been appointed master mechanic of the Pittsburg & Shawmut, with headquarters at Brookville, Pa.

H. B. Payne, general foreman on the Norfolk & Western at Portsmouth, Ohio, has been appointed general master mechanic at Roanoke, Va.

A. C. Howard has been appointed assistant mechanical engineer of the Pere Marquette, with headquarters at Detroit, Mich.

A. B. Atkinson, general foreman on the Illinois Central at Centralia, Ill., has been promoted to master mechanic at Memphis, Tenn., succeeding **W. F. Lauer,** who retired from active service on March 1.

Walter O. Nugent, superintendent of the locomotive shops on the Canadian National at Transcona, Man., has been promoted to assistant general superintendent of motive power and equipment on the Western region, with headquarters at Winnipeg, Man., and **D. E. Mackinnon,** general foreman at Edmonton, Alta., has been advanced to superintendent of the Transcona locomotive shops, succeeding Mr. Nugent.

H. J. Kleine, master mechanic of the Pan Handle division of the Pennsylvania with headquarters at Pittsburgh, Pa., has been promoted to master mechanic of the Western Pennsylvania General division, with headquarters at Pitcairn, Pa., succeeding **H. M. Wood,** whose promotion to superintendent of the Logansport division was reported in the *Railway Age* of February 21. **Paul Thomas,** master mechanic at Chicago, has been transferred to Pittsburgh, relieving Mr. Kleine, and **G. S. Webb,** assistant master mechanic at Columbus, Ohio, has been advanced to master mechanic at Chicago, replacing Mr. Thomas.

A. B. Wilson, assistant superintendent of motive power on the Southern Pacific at Sacramento, Cal., has been promoted to superintendent of motive power, with the same headquarters, succeeding **A. D. Williams,** who retired from active service on March 1. **E. E. Hinchman,** superintendent of the Los Angeles (Cal.) general shops, has been advanced to assistant superintendent of motive power at Sacramento, relieving Mr. Wilson, and **James Bean** has been appointed superintendent of the Los Angeles general shops, replacing Mr. Hinchman. **F. W. Kubler** has been appointed master mechanic of the Los Angeles division, with headquarters at Los Angeles, Cal., succeeding **F. P. McDonald,** deceased.

G. M. Williams, assistant mechanical superintendent of the Pullman Company, with headquarters at Chicago, has retired, and **E. L. Goodwin,** assistant to the mechanical superintendent at Chicago, and **John Cannon,** manager of the Wilmington (Del.) shop, have been promoted to senior and junior assistant mechanical superintendents, respectively, with headquarters at Chicago, succeeding Mr. Williams.

Mr. Goodwin entered the service of the Pullman Company at its Denver (Colo.) repair shop in 1905 and was later transferred to Richmond, Cal. In December, 1919, he was appointed mechanical inspector at Chicago, and on January 1, 1923, he was promoted to assistant to the mechanical superintendent.

Mr. Cannon entered the service of the Pullman Company on April 15, 1912, at its Wilmington shop and all of his service has been at that point. He was promoted successively through various positions, becoming manager on February 1, 1942.

PURCHASES AND STORES

K. P. Chinn, assistant superintendent on the Southern Pacific Lines in Texas and Louisiana, with headquarters at Ennis, Tex., and Austin, has been promoted to assistant purchasing agent, with headquarters at New Orleans, La., succeeding **T. L. Jackson,** deceased.

ENGINEERING & SIGNALING

A. J. Gayfer, division engineer on the Canadian National at Calgary, Alta., has retired.

E. H. Barnhart, general bridge inspector of the Western lines of the Baltimore & Ohio, has been promoted to division engineer of the Chicago sub-division of the Akron-Chicago division, with headquarters at Garrett, Ind., succeeding **A. H. Woerner,** who has been promoted to superintendent of the newly-organized Indianapolis division, with headquarters at Indianapolis, Ind.

C. P. Nicholson, assistant engineer of the Norfolk Southern, has been promoted to assistant chief engineer, with headquarters as before at Norfolk, Va.

C. N. Billings, supervisor of bridges and buildings on the Southern Pacific Lines in Texas and Louisiana at Ennis, Tex., has been promoted to division engineer of the Victoria division, with headquarters at Victoria, Tex., succeeding **H. L. Bell,** whose promotion to assistant superintendent is reported elsewhere in these columns.

D. E. Woozley, chief engineer of the Union railroad, with headquarters at East Pittsburgh, Pa., has been appointed consulting engineer, with headquarters at Pittsburgh. **H. A. Sayre,** principal assistant engineer, has been promoted to chief engineer. **A. J. Wilson,** supervisor of general maintenance, has been promoted to general maintenance engineer.

Fred L. Thompson, vice-president in charge of the engineering department of the Illinois Central, whose retirement on March 1 was reported in the *Railway Age* of February 28, was born at Grand View, Ill., on February 1, 1872, and graduated from the University of Illinois in 1896. He entered railway service in June of that year as a chainman on track depression work for the Illinois Central at Chicago. He was later transferred as a rodman to Vicksburg, Miss., and to Fulton, Ky., after which he was promoted to engineer in charge of grade reduction and second track construction at Cairo, Ill. Mr. Thompson was transferred to the chief engineer's office at Chicago in 1902 and in the following year was promoted to roadmaster of the Illinois division. He was later transferred to the Kentucky division, where he remained until 1907, when he was promoted to assistant engineer of bridges of the Illinois Central and the Yazoo & Mississippi Valley. Mr. Thompson was promoted to assistant engineer of bridges and buildings in 1910 and in 1913 was promoted to engineer of construction. He was promoted to assistant chief engineer in 1914 and held that position until August, 1918, when he was pro-

Fred L. Thompson

Continued on next left-hand page

IMPROVED BRICK ARCHES AND LOWER MAINTENANCE

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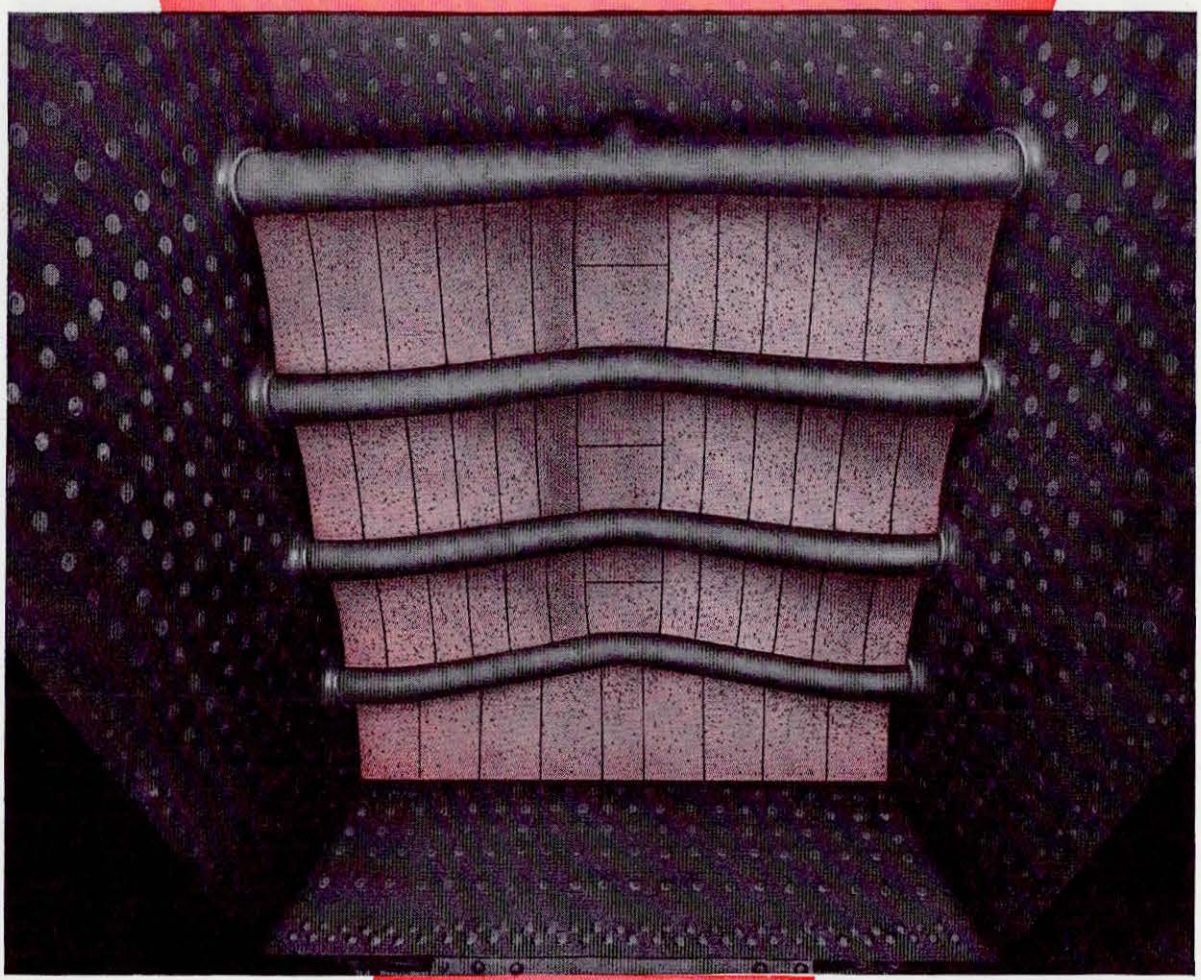

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moted to chief engineer. On February 1, 1925, he was elected vice-president in charge of engineering, which position he held until his retirement.

Glen H. Trout, bridge engineer of the Union Pacific, has been promoted to assistant chief engineer, a newly created position, with headquarters as before at Omaha, Neb., and **Lewis Paul Drew,** bridge inspector at Omaha, has been ad-

Glen H. Trout

vanced to bridge engineer, succeeding Mr. Trout.

Mr. Trout was born at Basil, Ohio, on November 16, 1879, and graduated in civil engineering from the University of Washington in 1902. In July, 1902, he became a draftsman for the American Bridge Company and in March, 1903, he went with the Phoenix Bridge Company, Phoenixville, Pa., as a draftsman and foreman. Seven months later, he entered railway service as assistant engineer, bridges and structures, on the Oregon Short Line (now part of the Union Pacific) at Pocatello, Idaho, and later served as assistant engineer on all

Lewis Paul Drew

divisions of the O. S. L. In 1912 Mr. Trout was promoted to bridge engineer of the O. S. L. and during the first World War he served as works manager of the Chester Shipbuilding Company, Chester, Pa. He returned to railroad service in January, 1920, as bridge engineer of the Union Pacific system.

Mr. Drew was born at Clarion, Iowa, on July 7, 1891, and graduated in civil engineering from Iowa State College, Ames, Iowa, in 1912. He entered railway service in 1910 as a bridge carpenter on the Oregon Short Line and in September, 1912, he was appointed instrumentman and draftsman on the O. S. L. He left a year later to become a construction foreman for the Pittsburgh-Des Moines Bridge Company and from September, 1915, to June, 1916, he served as professor of mathematics at Adrian (Mich.) College. On the latter date, Mr. Drew returned to the O. S. L., serving as a draftsman and assistant engineer until January, 1924, when he was promoted to bridge engineer of the Los Angeles & Salt Lake (now part of the Union Pacific system). In 1931 he was appointed bridge engineer of the L. A. & S. L., the O. S. L. and the Oregon-Washington Railroad & Navigation Co. (also part of the Union Pacific system) and in 1934 he was appointed bridge inspector for the Union Pacific at Omaha, which position he held until his recent promotion, except for a short period in 1941, when he was division engineer of the Colorado division.

OBITUARY

Edwin R. Anthony, who retired on January 1, 1931, as superintendent of the Coast division of the Southern Pacific, with headquarters at San Francisco, Cal., died on January 3.

Joseph Van Wyck, general manager hotels of the Canadian National, with headquarters at Ottawa, Ont., died at Vancouver, B. C., on March 2, at the age of 58.

Frank A. Clifford, superintendent of stations and claim prevention of the Missouri Pacific, with headquarters at St. Louis, Mo., died at his home in that city on February 21, after an extended illness.

John Lawrence Maher, division engineer of the Staten Island Rapid Transit (subsidiary of the Baltimore & Ohio), with headquarters at St. George, Staten Island, New York, died at the University hospital, Baltimore, Md., on February 12, at the age of 56.

Henry Opperman, Jr., foreign passenger agent of the Pennsylvania, with headquarters at New York, who had been employed by that company since June 1, 1891, died on February 28 in the New York hospital, where he had been a patient for about a week. He was 63 years old.

Lewis H. Bond, who retired as chief engineer maintenance of way of the Illinois Central on May 31, 1941, died on February 27 in the Illinois Central hospital at Chicago after an illness of several weeks. A photograph and biography of Mr. Bond were published in the *Railway Age* of May 31, 1941, at the time of his retirement.

Dr. Ross A. Woolsey, chief surgeon of the St. Louis-San Francisco and superintendent of the Frisco hospital, St. Louis, Mo., died on February 23 from injuries received in an automobile accident. Dr. Woolsey was born at Knoxville, Ill., on December 23, 1877, and graduated from St. Louis University Medical School in 1904, after which he became an interne at the Frisco Railroad Employees' Hospital at Springfield, Mo. He returned to St. Louis as a house surgeon when the Frisco Hospital in that city opened in 1916. He was a past president of the Missouri State Medical Association.

William F. Wright, purchasing agent of the Louisiana & Arkansas, with headquarters at Minden, La., died at his home at Shreveport, La., on February 19 after a short illness. Mr. Wright was born at Shreveport on January 17, 1880, and entered railway service in June, 1903, as a yard clerk for the Kansas City Southern. Three months later he went with the Texas & Pacific as a storekeeper and in 1913 he went with the L. & A. as chief clerk in the purchasing department. Mr. Wright was promoted to assistant purchasing agent in 1918 and in 1920 he was advanced to purchasing agent, which position he held until his death.

W. Noel Adams, executive general agent of the Kansas City Southern-Louisiana & Arkansas system at New Orleans, La., whose death on February 16 was reported in the *Railway Age* of February 28, was born at Trezevant, Tenn., on February 19, 1881, and graduated from Ouachita College, Arkadelphia, Ark. He entered business at the age of 18 with the Arkadelphia Milling Company and a year later he was made manager, later serving also as secretary and treasurer. On July 1, 1929, he entered railway service as executive general agent of the L. & A. at New Orleans and on September 1, 1939, he was appointed executive general agent at that point for the consolidated K. C. S.-L. & A. system.

John C. Wrenshall, who retired on September 1, 1934, as engineer maintenance of way of the Reading, with headquarters at Reading, N. J., died at his home in Mount Airy, Pa., on March 1, after a year's illness. Mr. Wrenshall was born at Baltimore, Md., on August 12, 1868, and attended the University of Virginia. He entered railway service on June 1, 1891, as an assistant supervisor on the Baltimore & Ohio, at Cumberland, Md. In the following year he was promoted to supervisor at Hagerstown, Md., and in 1895 he was transferred to Baltimore. In 1898, he was appointed division engineer at Cumberland, being transferred to Washington, D. C., in 1899. In the following year Mr. Wrenshall became a transitman in the chief engineer's department of the Philadelphia & Reading, and shortly thereafter was appointed supervisor at Lebanon, Pa. In 1902, he was transferred to Harrisburg, Pa., and in 1903, to Trenton, N. J. In 1905, he was promoted to division engineer at Harrisburg, and in 1910, he was transferred to Reading, Pa. In 1918, he was appointed division engineer of the New York division, with headquarters at Philadelphia, and in November, 1923, he was advanced to engineer maintenance of way, which position he held until his retirement.

Table of Operating Revenues and Expenses appears on next left-hand page

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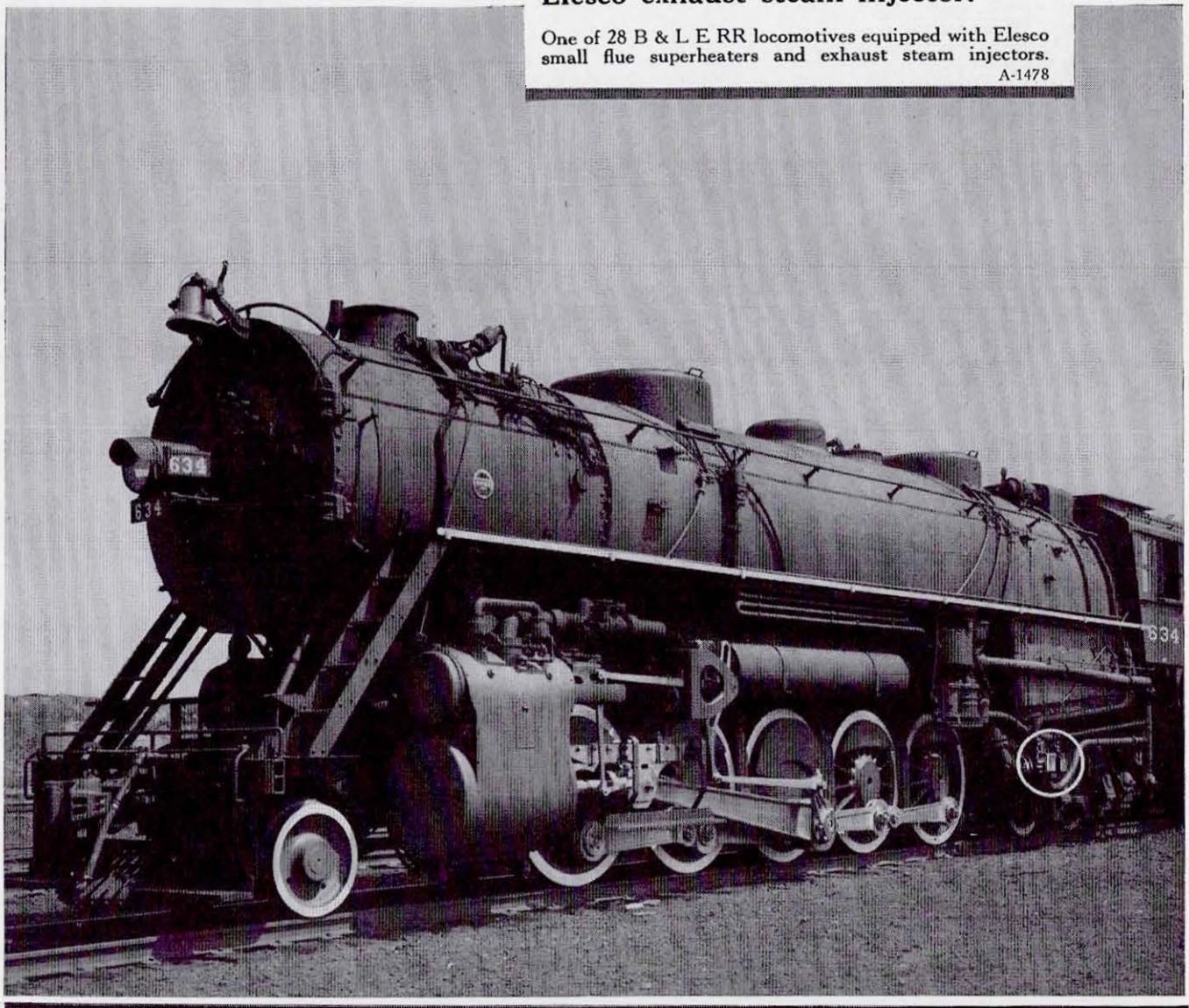

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THE SUPERHEATER COMPANY, LTD.

Operating Revenues and Operating Expenses of Class I Steam Railways

Compiled from 133 Monthly Reports of Revenues and Expenses Representing 137 Class I Steam Railways

(Switching and Terminal Companies Not Included)

FOR THE MONTH OF DECEMBER, 1941 AND 1940

Item	United States		Eastern District		Southern District		Western District	
	1941	1940	1941	1940	1941	1940	1941	1940
Miles of road operated at close of month	231,911	232,492	57,125	57,314	43,912	44,259	130,874	130,919
Revenues:								
Freight	$389,222,726	$308,379,952	$164,013,514	$133,634,442	$76,850,872	$61,264,862	$148,358,340	$113,480,648
Passenger	53,868,286	40,840,486	26,529,183	21,704,285	9,514,627	6,418,058	17,824,476	12,718,143
Mail	12,179,894	11,303,789	4,311,270	4,161,531	2,030,918	1,893,242	5,837,706	5,249,016
Express	5,775,901	5,880,319	1,640,856	2,018,646	1,054,828	1,234,251	3,080,217	2,627,422
All other operating revenues	18,513,347	15,532,434	9,008,603	7,656,142	2,583,729	2,075,634	6,921,015	5,800,658
Railway operating revenues	479,560,154	381,936,980	205,503,426	169,175,046	92,034,974	72,886,047	182,021,754	139,875,887
Expenses:								
Maintenance of way and structures	55,884,767	36,429,969	25,597,319	15,386,733	8,282,357	6,173,139	22,005,091	14,870,097
Maintenance of equipment	93,443,818	70,556,099	41,923,249	32,534,496	17,729,929	12,964,638	33,790,640	25,056,965
Traffic	9,804,839	9,151,535	3,457,576	3,231,189	1,932,120	1,875,502	4,415,143	4,044,844
Transportation—Rail line	176,247,181	135,401,088	79,042,015	62,046,587	28,940,055	22,558,781	68,265,111	50,795,720
Transportation—Water line	†9,996	616,508	.....	.....	.....	.....	†9,996	616,508
Miscellaneous operations	4,961,448	3,603,283	2,072,359	1,590,261	767,313	553,799	2,121,776	1,459,223
General	12,660,223	10,853,320	5,158,181	4,271,169	2,436,881	2,330,465	5,065,161	4,251,686
Transportation for investment—Cr.	460,409	462,984	146,695	127,290	52,239	66,829	261,475	268,865
Railway operating expenses	352,531,871	266,148,818	157,104,004	118,933,145	60,036,416	46,389,495	135,391,451	100,826,178
Net revenue from railway operations	127,028,283	115,788,162	48,399,422	50,241,901	31,998,558	26,496,552	46,630,303	39,049,709
Railway tax accruals	33,606,369	26,808,850	11,674,824	11,380,781	9,438,427	6,841,576	12,493,118	8,586,493
Railway operating income	93,421,914	88,979,312	36,724,598	38,861,120	22,560,131	19,654,976	34,137,185	30,463,216
Equipment rents—Dr. balance	8,902,561	7,562,948	4,701,243	3,661,001	74,439	237,419	4,126,879	3,664,528
Joint facility rent—Dr. balance	3,970,746	2,565,620	1,545,241	1,279,528	269,995	361,582	2,155,510	924,510
Net railway operating income	80,548,607	78,850,744	30,478,114	33,920,591	22,215,697	19,055,975	27,854,796	25,874,178
Ratio of expenses to revenues (per cent)	73.5	69.7	76.4	70.3	65.2	63.6	74.4	72.1
Depreciation included in operating expenses	24,698,685	17,542,945	13,517,701	7,315,667	4,725,495	3,506,447	6,455,489	6,720,831
Pay roll taxes	13,594,175	9,937,262	5,896,398	4,485,634	2,397,216	1,718,043	5,300,561	3,733,585
All other taxes	20,012,194	16,871,588	5,778,426	6,895,147	7,041,211	5,123,533	7,192,557	4,852,908

FOR TWELVE MONTHS ENDED WITH DECEMBER, 1941 AND 1940

Item								
Miles of road operated at close of month*	232,192	232,824	57,197	57,367	44,118	44,298	130,877	131,159
Revenues:								
Freight	$4,447,568,333	$3,537,440,970	$1,897,602,180	$1,499,413,010	$867,181,044	$707,816,158	$1,682,785,109	$1,330,211,802
Passenger	514,687,031	417,268,962	264,430,067	226,825,345	86,502,008	59,591,334	163,754,956	130,852,283
Mail	108,192,446	101,086,894	39,832,268	38,668,908	18,486,001	17,189,100	49,874,177	45,228,886
Express	57,281,554	55,642,988	21,793,470	23,179,481	11,223,575	10,789,454	24,264,509	21,674,053
All other operating revenues	218,970,634	186,561,784	107,032,598	91,095,309	27,141,711	23,163,356	84,796,325	72,303,119
Railway operating revenues	5,346,699,998	4,298,001,598	2,330,690,583	1,879,182,053	1,010,534,339	818,549,402	2,005,475,076	1,600,270,143
Expenses:								
Maintenance of way and structures	603,110,965	497,167,786	247,342,062	194,857,389	103,309,667	91,319,281	252,459,236	210,991,116
Maintenance of equipment	992,511,463	819,103,106	460,587,742	370,481,410	184,330,109	159,900,613	347,593,612	288,721,083
Traffic	111,888,491	107,593,047	40,035,252	38,806,914	21,864,449	20,869,118	49,988,790	47,917,015
Transportation—Rail line	1,771,870,202	1,494,719,538	814,614,621	684,017,189	295,273,749	252,598,461	661,981,832	558,103,888
Transportation—Water line	3,106,813	6,673,267	.....	.....	.....	.....	3,106,813	6,673,267
Miscellaneous operations	47,511,168	38,950,969	20,436,238	17,159,045	6,752,461	5,293,818	20,322,469	16,498,106
General	138,214,336	130,498,100	54,728,430	51,835,722	26,868,299	25,579,327	56,617,607	53,083,051
Transportation for investment—Cr.	4,038,420	4,532,676	781,727	884,703	697,472	751,985	2,559,221	2,895,988
Railway operating expenses	3,664,175,018	3,090,173,137	1,636,962,618	1,356,272,966	637,701,262	554,808,633	1,389,511,138	1,179,091,538
Net revenue from railway operations	1,682,524,980	1,207,828,461	693,727,965	522,909,087	372,833,077	263,740,769	615,963,938	421,178,605
Railway tax accruals	546,071,058	396,623,016	227,656,565	167,434,565	137,638,672	90,875,019	180,775,821	138,313,432
Railway operating income	1,136,453,922	811,205,445	466,071,400	355,474,522	235,194,405	172,865,750	435,188,117	282,865,173
Equipment rents—Dr. balance	102,176,729	95,735,682	49,946,457	46,220,847	819,464	2,557,098	51,410,808	46,957,737
Joint facility rent—Dr. balance	34,774,287	32,926,545	18,315,320	18,053,158	3,659,162	3,545,583	12,799,805	11,327,804
Net railway operating income	999,502,906	682,543,218	397,809,623	291,200,517	230,715,779	166,763,069	370,977,504	224,579,632
Ratio of expenses to revenues (per cent)	68.5	71.9	70.2	72.2	63.1	67.8	69.3	73.7
Depreciation included in operating expenses	223,110,817	205,893,175	100,309,265	89,160,386	45,157,204	41,470,625	77,644,348	75,262,164
Pay roll taxes	138,029,553	116,376,222	61,313,803	51,229,114	23,912,923	20,682,355	52,802,827	44,464,753
All other taxes	408,041,505	280,246,794	166,342,762	116,205,451	113,725,749	70,192,664	127,972,994	93,848,679

† Decrease, deficit, or other reverse items.

* Represents an average of the mileage reported at the close of each month within the period.

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF JANUARY OF CALENDAR YEAR 1942

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income 1942	Net railway operating income 1941
Akron, Canton & Youngstown	Jan.	171	$240,248	$81	$250,190	$40,198	$24,883	$15,406	$79,718	$171,097	68.4	$79,093	$59,067	$40,808	$63,928
Alton	Jan.	959	1,517,269	317,920	2,053,407	175,781	259,277	48,578	812,298	1,389,324	67.7	664,083	543,598	353,111	67,340
Atchison, Topeka & Santa Fe System	Jan.	13,367	17,989,243	2,850,875	22,350,539	2,460,455	4,262,589	481,313	7,443,437	15,113,213	67.6	7,237,326	4,278,185	4,262,226	1,814,350
Atlanta & West Point	Jan.	93	151,560	49,252	224,935	23,066	34,274	9,460	97,459	177,372	78.9	47,563	26,873	13,593	11,356
Western of Alabama	Jan.	133	175,534	49,867	245,980	25,681	40,646	9,062	91,875	179,091	72.8	66,889	37,123	35,245	20,195
Atlanta, Birmingham & Coast	Jan.	639	367,057	34,400	423,300	52,357	61,672	26,704	176,632	334,702	79.1	88,598	62,343	29,878	6,691
Atlantic Coast Line	Jan.	5,010	4,865,712	1,344,417	6,721,830	582,402	1,294,781	221,765	2,529,133	4,929,924	73.3	1,791,906	1,141,906	934,114	1,190,706
Charleston & Western Carolina	Jan.	343	290,459	8,404	304,812	31,251	44,068	9,821	96,305	188,383	61.8	116,429	71,429	69,798	77,118
Baltimore & Ohio	Jan.	6,273	17,805,317	1,315,870	20,183,592	1,660,393	5,145,077	402,667	7,693,420	15,692,347	77.8	4,491,245	3,034,596	2,741,952	3,162,205
Staten Island Rapid Transit	Jan.	24	81,380	71,962	160,967	13,693	26,077	1,313	92,637	146,561	91.1	14,406	—12,819	—22,280	—27,467
Bangor & Aroostook	Jan.	603	607,163	28,651	659,698	82,101	97,548	6,040	176,003	388,877	59.0	270,821	172,212	181,529	136,834
Bessemer & Lake Erie	Jan.	214	874,354	658	887,791	104,806	692,654	15,586	247,076	1,101,491	124.1	—213,700	—281,040	—174,604	170,820
Boston & Maine	Jan.	1,866	3,874,681	814,691	5,194,767	653,676	904,448	66,291	2,178,575	3,987,134	76.8	1,207,633	780,880	477,973	521,566
Burlington, Rock Island	Jan.	251	82,191	31,250	122,099	20,536	16,398	2,273	50,564	101,424	83.1	20,675	10,909	5,937	—32,881
Cambria & Indiana	Jan.	38	171,307	.....	171,384	6,448	56,414	684	17,667	88,323	51.53	83,061	16,741	93,120	110,637
Canadian Pacific Lines in Maine	Jan.	234	469,256	33,308	520,412	37,173	56,541	7,148	137,298	249,544	47.95	270,868	255,329	211,674	130,899
Canadian Pacific Lines in Vermont	Jan.	91	99,624	7,045	118,284	16,823	25,400	2,388	80,696	128,940	108.9	—10,656	—18,226	—43,654	—23,461
Central of Georgia	Jan.	1,815	1,471,811	218,838	1,864,269	232,738	337,293	62,194	823,918	1,547,939	83.0	316,330	177,562	153,841	145,659
Central of New Jersey	Jan.	661	3,211,828	412,664	3,861,877	430,788	790,699	46,656	1,717,735	3,096,812	80.2	765,065	447,705	180,088	117,559
Central Vermont	Jan.	422	521,110	43,000	599,711	70,056	106,967	10,961	273,641	483,411	80.6	116,300	85,502	36,683	27,474
Chesapeake & Ohio	Jan.	3,124	11,193,826	549,884	12,081,883	1,333,338	2,361,024	228,736	3,331,974	7,628,066	63.1	4,453,817	1,986,570	2,269,633	2,831,473
Chicago & Eastern Illinois	Jan.	925	1,330,717	239,500	1,734,666	159,393	277,787	66,098	653,398	1,233,078	71.1	501,588	364,588	241,838	214,974
Chicago & Illinois Midland	Jan.	131	485,315	734	501,850	48,429	87,565	26,780	134,360	319,458	63.7	182,392	96,013	84,864	100,479
Chicago & North Western	Jan.	8,265	6,814,550	1,172,994	8,981,681	1,151,770	1,871,637	199,206	3,910,628	7,530,236	83.8	1,451,445	784,419	472,508	661,918
Chicago, Burlington & Quincy	Jan.	9,101	8,866,945	1,069,429	10,977,977	897,761	1,879,637	271,276	3,855,937	7,294,833	66.4	3,683,144	2,314,423	2,083,308	1,664,455
Chicago Great Western	Jan.	1,502	1,706,430	76,012	1,915,157	235,065	265,645	65,132	768,519	1,386,868	72.4	528,289	385,143	170,470	184,409
Chicago, Indianapolis & Louisville	Jan.	549	819,979	40,518	927,905	72,503	174,437	29,576	328,286	641,090	69.1	286,815	238,129	156,409	104,275
Chicago, Milwaukee, St. Paul & Pacific	Jan.	10,821	10,991,283	948,048	12,983,550	1,133,452	2,044,843	238,601	4,810,362	8,736,208	67.3	4,247,342	3,396,342	3,004,388	1,756,422
Chicago, Rock Island & Pacific	Jan.	7,950	6,933,763	1,311,287	8,925,059	844,337	1,491,804	293,488	3,358,862	6,421,128	71.9	2,503,931	1,970,798	1,652,001	1,059,371
Chicago, St. Paul, Minneapolis & Omaha	Jan.	1,629	1,491,130	158,482	1,765,676	182,992	324,969	42,234	864,463	1,488,271	84.3	277,405	150,133	49,993	3,430
Clinchfield Railroad	Jan.	308	999,463	4,295	1,010,174	53,556	152,047	20,195	215,527	460,654	45.6	549,520	444,962	439,348	440,810
Colorado & Southern	Jan.	755	547,442	99,050	702,395	51,532	144,438	14,147	283,096	526,187	74.9	176,208	111,950	81,273	95,314
Fort Worth & Denver City	Jan.	804	439,413	141,705	673,021	69,516	99,255	21,253	222,050	450,798	67.0	222,223	183,016	148,061	42,343
Colorado & Wyoming	Jan.	42	91,135	.....	146,305	9,660	12,926	913	52,898	79,780	54.5	66,525	32,280	31,533	42,939
Columbus & Greenville	Jan.	168	103,094	4,240	112,977	16,911	21,666	5,554	37,158	92,301	81.7	20,676	8,261	9,659	4,801
Delaware & Hudson	Jan.	849	2,935,446	101,704	3,119,558	294,274	726,500	44,591	1,123,272	2,292,848	73.5	826,710	593,212	553,978	476,643
Delaware, Lackawanna & Western	Jan.	985	4,134,379	630,419	5,247,492	391,350	921,399	110,797	2,368,564	3,942,390	75.1	1,305,102	569,102	481,950	799,465
Denver & Rio Grande Western	Jan.	2,431	2,833,340	176,386	3,138,117	182,369	605,579	93,908	1,221,725	2,223,498	70.9	914,619	686,785	628,217	240,109
Denver & Salt Lake	Jan.	232	265,514	7,121	282,304	20,284	47,070	2,786	89,057	169,727	60.1	112,577	86,570	129,829	104,996
Detroit & Mackinac	Jan.	242	54,163	4,740	66,428	7,834	11,734	888	28,180	51,839	78.1	14,589	10,950	6,446	—7,550
Detroit & Toledo Shore Line	Jan.	50	431,863	.....	432,865	21,440	26,140	9,234	108,711	173,483	40.1	259,382	183,580	116,054	115,058
Detroit, Toledo & Ironton	Jan.	465	777,339	329	820,551	69,309	111,202	13,279	190,431	408,502	49.8	412,049	257,737	225,739	294,555
Duluth, Missabe & Iron Range	Jan.	542	95,586	1,030	123,065	208,427	333,439	4,199	206,867	791,147	642.9	—668,082	—1,235,306	—1,249,771	—826,638
Duluth, Winnipeg & Pacific	Jan.	175	178,000	800	182,100	22,778	27,516	2,005	71,254	127,262	69.9	54,838	40,732	20,626	17,759
Elgin, Joliet & Eastern	Jan.	392	2,378,010	20	2,680,484	168,112	488,687	16,501	1,004,752	1,718,897	64.1	961,587	633,589	509,543	603,206

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REVENUES AND EXPENSES OF RAILWAYS

MONTH OF JANUARY OF CALENDAR YEAR 1942—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of: Way and structures	Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income: 1942	1941
Erie	Jan.	2,251	$8,583,332	$452,506	$9,526,308	$775,088	$1,660,553	$196,084	$3,666,797	$6,612,828	69.4	$2,913,480	$1,803,978	$1,462,147	$1,577,219
Florida East Coast	Jan.	685	800,910	393,472	1,333,483	148,629	223,687	34,065	510,922	1,016,370	76.2	317,113	237,247	192,695	283,993
Georgia Railroad	Jan.	329	490,567	62,482	580,544	46,817	73,713	20,590	218,560	376,020	64.8	204,524	184,738	177,520	92,188
Georgia & Florida	Jan.	408	151,922	2,282	158,201	33,854	20,474	9,948	52,187	122,488	77.4	35,713	26,627	15,457	—3,288
Grand Trunk Western	Jan.	1,028	2,152,000	91,000	2,389,000	310,386	479,187	38,283	1,026,092	1,931,161	80.8	457,839	309,803	244,814	387,469
Canadian National Lines in New England	Jan.	172	208,800	3,700	233,500	40,493	30,364	2,506	97,424	184,621	79.0	48,879	30,359	—29,738	—33,783
Great Northern	Jan.	8,077	8,080,786	424,397	9,130,887	1,129,443	2,184,732	191,547	3,183,680	7,021,380	76.9	2,109,507	1,147,293	1,004,614	27,581
Green Bay & Western	Jan.	234	169,377	322	174,137	25,739	22,280	9,015	59,167	122,431	70.3	51,706	33,146	24,191	36,856
Gulf & Ship Island	Jan.	259	134,730	16,378	160,714	21,643	22,286	3,234	67,552	121,331	75.5	39,383	20,220	7,976	2,717
Gulf, Mobile & Ohio	Jan.	1,973	1,927,455	50,915	2,054,027	320,246	325,150	89,568	656,340	1,490,817	72.6	563,210	360,890	253,147	252,101
Illinois Central	Jan.	4,951	9,971,227	1,270,128	11,940,238	1,148,883	2,702,670	235,872	4,281,904	8,813,623	73.8	3,126,615	1,764,054	1,692,349	2,012,978
Yazoo & Mississippi Valley	Jan.	1,550	1,833,212	118,024	2,046,006	155,035	265,655	39,040	712,410	1,235,057	60.4	810,949	649,105	564,584	188,174
Illinois Central System	Jan.	6,501	11,804,439	1,388,152	13,986,244	1,303,918	2,968,325	274,912	4,994,314	10,048,680	71.8	3,937,564	2,408,105	2,262,846	2,210,064
Illinois Terminal	Jan.	476	474,443	85,317	618,265	54,328	91,216	18,934	212,080	395,676	64.00	222,589	146,905	125,676	88,704
Kansas City Southern	Jan.	880	1,533,333	90,174	1,762,930	232,348	277,869	51,735	534,047	1,171,665	66.5	591,265	443,265	339,806	314,483
Kansas, Oklahoma & Gulf	Jan.	328	208,748	476	212,249	11,952	10,968	10,006	56,313	100,561	47.4	111,688	77,214	56,454	82,238
Lake Superior & Ishpeming	Jan.	156	33,793	55	36,538	20,203	46,392	671	25,923	101,419	277.6	—64,881	—90,389	—84,338	—63,838
Lehigh & Hudson River	Jan.	96	222,837	.....	223,546	21,370	33,390	4,378	66,567	132,308	59.2	91,238	49,269	32,227	25,598
Lehigh & New England	Jan.	190	379,545	.....	381,661	36,243	87,022	8,100	131,392	278,294	72.9	103,367	61,986	71,375	110,672
Lehigh Valley	Jan.	1,263	4,345,667	218,462	4,851,472	401,700	891,888	107,998	2,220,012	3,786,835	78.1	1,064,637	628,128	300,511	820,445
Louisiana & Arkansas	Jan.	877	833,698	48,405	920,379	146,465	123,941	37,121	253,847	601,114	65.3	319,265	224,567	175,893	173,671
Louisville & Nashville	Jan.	4,799	9,237,378	1,105,888	10,981,445	1,189,945	2,235,223	208,742	3,891,987	7,892,105	71.9	3,089,340	1,502,605	1,744,235	1,848,437
Maine Central	Jan.	991	1,173,464	105,937	1,381,071	166,330	263,954	11,309	495,085	983,421	71.2	397,650	248,358	199,171	182,745
Midland Valley	Jan.	351	127,879	4	130,691	10,305	7,737	2,800	42,949	71,426	54.7	59,265	43,930	27,083	38,331
Minneapolis & St. Louis	Jan.	1,409	949,393	15,931	1,002,904	66,137	161,935	57,037	361,883	692,284	69.0	310,620	258,394	211,194	52,006
Minneapolis, St. Paul & Sault Ste. Marie	Jan.	4,277	2,669,453	73,116	2,907,788	354,257	541,418	70,211	1,274,252	2,345,478	80.7	562,310	310,758	209,007	41,033
Duluth, South Shore & Atlantic	Jan.	550	278,545	10,058	303,365	43,575	58,059	8,676	113,419	231,086	76.2	72,279	55,115	51,292	23,417
Spokane International	Jan.	152	69,445	752	77,868	15,456	8,315	2,581	26,368	57,148	73.4	20,720	15,211	11,277	10,820
Mississippi Central	Jan.	158	95,676	978	97,726	23,576	12,459	8,055	24,540	73,314	75.0	24,412	19,140	12,321	27,927
Missouri & Arkansas	Jan.	365	103,204	1,785	118,834	23,704	12,914	8,029	46,817	96,783	81.4	22,051	17,107	5,403	8,371
Missouri-Illinois	Jan.	172	215,181	195	216,776	15,461	28,095	3,730	62,506	116,341	53.7	100,435	60,638	47,024	58,179
Missouri-Kansas-Texas Lines	Jan.	3,293	2,621,588	458,713	3,369,178	393,889	580,859	124,478	1,267,456	2,526,173	75.0	843,005	647,773	394,000	174,747
Missouri Pacific	Jan.	7,136	8,672,030	1,064,319	10,558,286	1,107,603	1,772,333	284,121	3,746,037	7,278,296	68.9	3,279,990	2,693,800	2,258,237	1,524,162
Gulf Coast Lines	Jan.	1,772	2,092,767	80,412	2,253,853	264,574	241,890	45,292	623,364	1,239,331	54.99	1,014,522	925,211	729,207	312,026
International Great Northern	Jan.	1,155	1,050,577	133,974	1,316,778	201,523	253,635	29,374	528,447	1,079,836	82.0	236,942	164,818	94,236	57,603
Monongahela	Jan.	172	552,624	501	555,681	49,354	44,533	542	138,936	236,355	42.5	319,326	216,677	116,912	98,794
Montour	Jan.	51	177,539	.....	179,439	9,894	57,062	819	57,700	132,930	74.1	46,509	7,080	43,321	55,782
Nashville, Chattanooga & St. Louis	Jan.	1,111	1,441,361	220,207	1,837,540	238,666	363,628	76,222	736,337	1,478,437	80.5	359,103	217,168	210,933	225,521
Nevada Northern	Jan.	165	53,388	643	56,679	9,451	2,910	1,219	9,917	29,087	51.3	27,592	10,769	12,542	8,816
New York Central	Jan.	10,918	29,033,588	6,916,857	39,469,610	4,165,640	8,855,419	604,102	16,259,022	31,582,712	80.0	7,886,898	4,377,491	3,178,567	4,750,949
Pittsburgh & Lake Erie	Jan.	232	2,331,567	56,977	2,454,218	218,064	878,447	40,928	807,068	2,046,218	83.4	408,000	61,199	469,097	472,397
New York, Chicago & St. Louis	Jan.	1,688	5,227,880	100,454	5,446,595	526,230	760,822	132,134	1,984,899	3,547,373	65.1	1,899,222	1,385,067	1,020,986	1,032,730
New York, New Haven & Hartford	Jan.	1,839	5,916,666	3,074,572	9,814,793	1,073,215	1,620,193	116,312	3,798,481	7,102,094	72.4	2,712,699	1,812,699	968,060	900114
New York Connecting	Jan.	21	228,737	.....	237,206	56,381	6,753	.....	41,054	105,826	44.6	131,380	86,120	141,060	257,648
New York, Ontario & Western	Jan.	547	440,707	5,367	487,312	58,708	101,190	16,907	275,758	475,343	97.5	11,969	—17,474	—52,032	—56,134

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REVENUES AND EXPENSES OF RAILWAYS

MONTH OF JANUARY OF CALENDAR YEAR 1942

Name of road		Av. mileage operated during period	Operating revenues			Operating expenses					Operating ratio	Net from railway operation	Operating income	Net railway operating income	
						Maintenance of									
			Freight	Passenger	Total (inc. misc.)	Way and structures	Equipment	Traffic	Transportation	Total				1942	1941
Akron, Canton & Youngstown	Jan.	171	$240,248	$81	$250,190	$40,198	$24,883	$15,406	$79,718	$171,097	68.4	$79,093	$59,067	$40,808	$63,928
Alton	Jan.	959	1,517,269	317,920	2,053,407	175,781	259,277	48,578	812,298	1,389,324	67.7	664,083	543,598	353,111	67,340
Atchison, Topeka & Santa Fe System	Jan.	13,367	17,989,243	2,850,875	22,350,539	2,460,455	4,262,589	481,313	7,443,437	15,113,213	67.6	7,237,326	4,278,185	4,262,226	1,814,350
Atlanta & West Point	Jan.	93	151,560	49,252	224,935	23,066	34,274	9,460	97,459	177,372	78.9	47,563	26,873	13,593	11,356
Western of Alabama	Jan.	133	175,534	49,867	245,980	25,681	40,646	9,062	91,875	179,091	72.8	66,889	37,123	35,245	20,195
Atlanta, Birmingham & Coast	Jan.	639	367,057	34,400	423,300	52,357	61,672	26,704	176,632	334,702	79.1	88,598	62,343	29,878	6,691
Atlantic Coast Line	Jan.	5,010	4,865,712	1,344,417	6,721,830	582,402	1,294,781	221,765	2,529,133	4,929,924	73.3	1,791,906	1,141,906	934,114	1,190,706
Charleston & Western Carolina	Jan.	343	290,459	8,404	304,812	31,251	44,068	9,821	96,305	188,383	61.8	116,429	71,429	69,798	77,118
Baltimore & Ohio	Jan.	6,273	17,805,317	1,315,870	20,183,592	1,660,393	5,145,077	402,667	7,693,420	15,692,347	77.8	4,491,245	3,034,596	2,741,952	3,162,205
Staten Island Rapid Transit	Jan.	24	81,380	71,962	160,967	13,693	26,077	1,313	92,637	146,561	91.1	14,406	—12,819	—22,280	—27,467
Bangor & Aroostook	Jan.	603	607,163	28,651	659,698	82,101	97,548	6,040	176,003	388,877	59.0	270,821	172,212	181,529	136,834
Bessemer & Lake Erie	Jan.	214	874,354	658	887,791	104,806	692,654	15,586	247,076	1,101,491	124.1	—213,700	—281,040	—174,604	170,820
Boston & Maine	Jan.	1,866	3,874,681	814,691	5,194,767	653,676	904,448	66,291	2,178,575	3,987,134	76.8	1,207,633	780,880	477,973	521,566
Burlington, Rock Island	Jan.	251	82,191	31,250	122,099	20,536	16,398	2,273	50,564	101,424	83.1	20,675	10,909	5,937	—32,881
Cambria & Indiana	Jan.	38	171,307	.....	171,384	6,448	56,414	684	17,667	88,323	51.53	83,061	16,741	93,120	110,637
Canadian Pacific Lines in Maine	Jan.	234	469,256	33,308	520,412	37,173	56,541	7,148	137,298	249,544	47.95	270,868	255,329	211,674	130,899
Canadian Pacific Lines in Vermont	Jan.	91	99,624	7,045	118,284	16,823	25,400	2,388	80,696	128,940	108.9	—10,656	—18,226	—43,654	—23,461
Central of Georgia	Jan.	1,815	1,471,811	218,838	1,864,269	232,738	337,293	62,194	823,918	1,547,939	83.0	316,330	177,562	153,841	145,659
Central of New Jersey	Jan.	661	3,211,828	412,664	3,861,877	430,788	790,699	46,656	1,717,735	3,096,812	80.2	765,065	447,705	180,088	117,559
Central Vermont	Jan.	422	521,110	43,000	599,711	70,056	106,967	10,961	273,641	483,411	80.6	116,300	85,502	36,683	27,474
Chesapeake & Ohio	Jan.	3,124	11,193,826	549,884	12,081,883	1,333,338	2,361,024	228,736	3,331,974	7,628,066	63.1	4,453,817	1,986,570	2,269,633	2,831,473
Chicago & Eastern Illinois	Jan.	925	1,330,717	239,500	1,734,666	159,393	277,787	66,098	653,398	1,233,078	71.1	501,588	364,588	241,838	214,974
Chicago & Illinois Midland	Jan.	131	485,315	734	501,850	48,429	87,565	26,780	134,360	319,458	63.7	182,392	96,013	84,864	100,479
Chicago & North Western	Jan.	8,265	6,814,550	1,172,994	8,981,681	1,151,770	1,871,637	199,206	3,910,628	7,530,236	83.8	1,451,445	784,419	472,508	661,918
Chicago, Burlington & Quincy	Jan.	9,101	8,866,945	1,069,429	10,977,977	897,761	1,879,637	271,276	3,855,937	7,294,833	66.4	3,683,144	2,314,423	2,083,308	1,664,455
Chicago Great Western	Jan.	1,502	1,706,430	76,012	1,915,157	235,065	265,645	65,132	768,519	1,386,868	72.4	528,289	385,143	170,470	184,409
Chicago, Indianapolis & Louisville	Jan.	549	819,979	40,518	927,905	72,503	174,437	29,576	328,286	641,090	69.1	286,815	238,129	156,409	104,275
Chicago, Milwaukee, St. Paul & Pacific	Jan.	10,821	10,991,283	948,048	12,983,550	1,133,452	2,044,843	238,601	4,810,362	8,736,208	67.3	4,247,342	3,396,342	3,004,388	1,756,422
Chicago, Rock Island & Pacific	Jan.	7,950	6,933,763	1,311,287	8,925,059	844,337	1,491,804	293,488	3,358,862	6,421,128	71.9	2,503,931	1,970,798	1,652,001	1,059,371
Chicago, St. Paul, Minneapolis & Omaha	Jan.	1,629	1,491,130	158,482	1,765,676	182,992	324,969	42,234	864,463	1,488,271	84.3	277,405	150,133	49,993	3,430
Clinchfield Railroad	Jan.	308	999,463	4,295	1,010,174	53,556	152,047	20,195	215,527	460,654	45.6	549,520	444,962	439,348	440,810
Colorado & Southern	Jan.	755	547,442	99,050	702,395	51,532	144,438	14,147	283,096	526,187	74.9	176,208	111,950	81,273	95,314
Fort Worth & Denver City	Jan.	804	439,413	141,705	673,021	69,516	99,255	21,253	222,050	450,798	67.0	222,223	183,016	148,061	42,343
Colorado & Wyoming	Jan.	42	91,135	.....	146,305	9,660	12,926	913	52,898	79,780	54.5	66,525	32,280	31,533	42,939
Columbus & Greenville	Jan.	168	103,094	4,240	112,977	16,911	21,666	5,554	37,158	92,301	81.7	20,676	8,261	9,659	4,801
Delaware & Hudson	Jan.	849	2,935,446	101,704	3,119,558	294,274	726,500	44,591	1,123,272	2,292,848	73.5	826,710	593,212	553,978	476,643
Delaware, Lackawanna & Western	Jan.	985	4,134,379	630,419	5,247,492	391,350	921,399	110,797	2,368,564	3,942,390	75.1	1,305,102	569,102	481,950	799,465
Denver & Rio Grande Western	Jan.	2,431	2,833,340	176,386	3,138,117	182,369	605,579	93,908	1,221,725	2,223,498	70.9	914,619	686,785	628,217	240,109
Denver & Salt Lake	Jan.	232	265,514	7,121	282,304	20,284	47,070	2,786	89,057	169,727	60.1	112,577	86,570	129,829	104,996
Detroit & Mackinac	Jan.	242	54,163	4,740	66,428	7,834	11,734	888	28,180	51,839	78.1	14,589	10,950	6,446	—7,550
Detroit & Toledo Shore Line	Jan.	50	431,863	.....	432,865	21,440	26,140	9,234	108,711	173,483	40.1	259,382	183,580	116,054	115,058
Detroit, Toledo & Ironton	Jan.	465	777,339	329	820,551	69,309	111,202	13,279	190,431	408,502	49.8	412,049	257,737	225,739	294,555
Duluth, Missabe & Iron Range	Jan.	542	95,586	1,030	123,065	208,427	333,439	4,199	206,867	791,147	642.9	—668,082	—1,235,306	—1,249,771	—826,638
Duluth, Winnipeg & Pacific	Jan.	175	178,000	800	182,100	22,778	27,516	2,005	71,254	127,262	69.9	54,838	40,732	20,626	17,759
Elgin, Joliet & Eastern	Jan.	392	2,378,010	20	2,680,484	168,112	488,687	16,501	1,004,752	1,718,897	64.1	961,587	633,589	509,543	603,206

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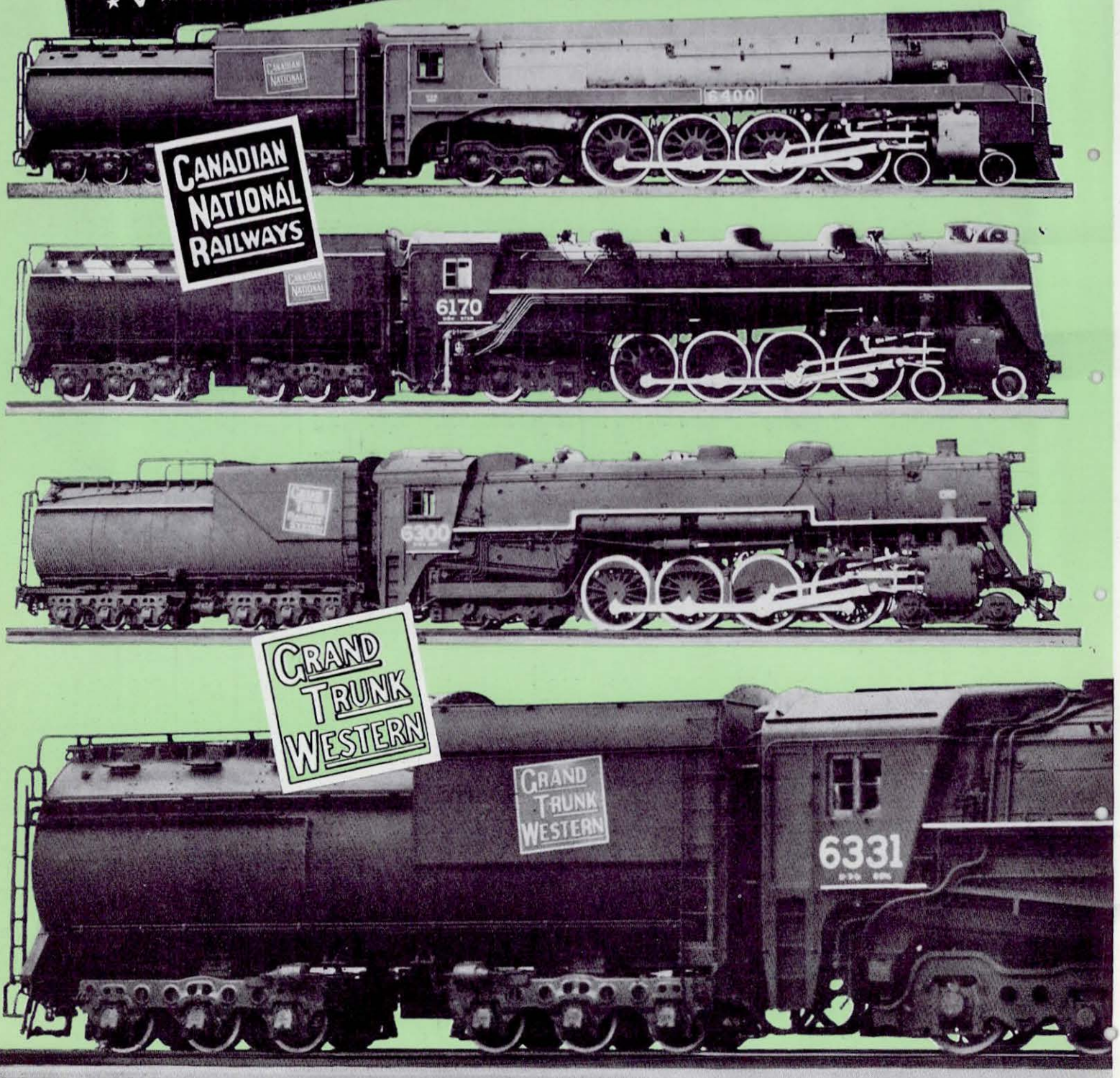
"Every builder of cars and locomotives has a very complete library of modern, approved designs. He also has on hand the necessary dies, patterns, tools, jigs and fixtures. Orders for new equipment could be filled rapidly and efficiently by using these designs, rather than starting in on new ones."

Excerpt from an Address at the
62nd Annual Meeting of the A. S. M. E.
By William C. Dickerman
Chairman of the Board
American Locomotive Company



Here's Another SUCCESSFUL DESIGN for FAST HEAVY SERVICE

ALCO engineers have always cooperated with the railways — pioneered many types of locomotives and have helped to pave the way for continued progress in faster and more economical transportation.

The task "for the duration" is obvious: That is to supply the railways as quickly as possible with the best of modern locomotives which have proven their superiority by performance.

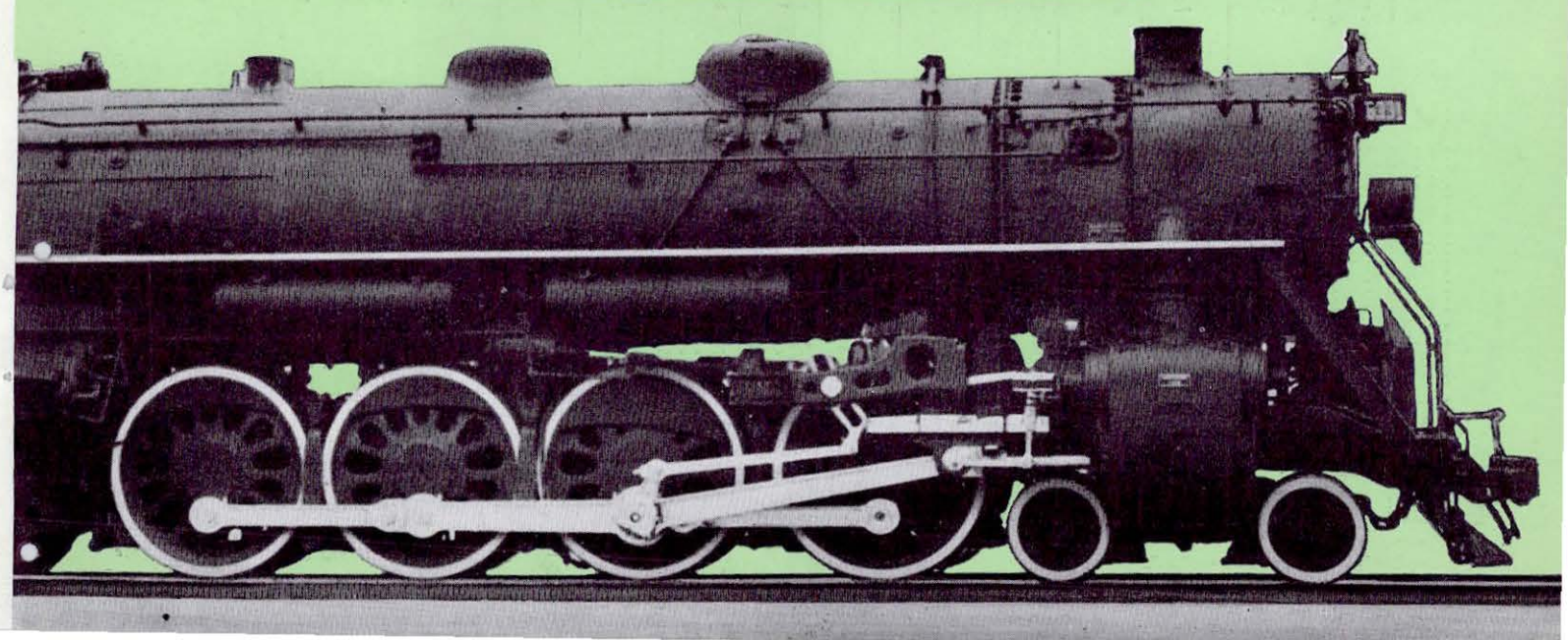
Now here's another locomotive design, the 4-8-4 type, which is operating very successfully on the Canadian National and the Grand Trunk Western in heavy fast passenger and freight service. Alco to date has delivered, or has on order 142 of these locomotives for these two roads alone. Many other designs with this same wheel arrangement are available.

AMERICAN LOCOMOTIVE

MANUFACTURERS OF MOBILE POWER

STEAM, DIESEL AND ELECTRIC LOCOMOTIVES

MARINE DIESELS, TANKS, GUN CARRIAGES AND OTHER ORDNANCE



REVENUES AND EXPENSES OF RAILWAYS

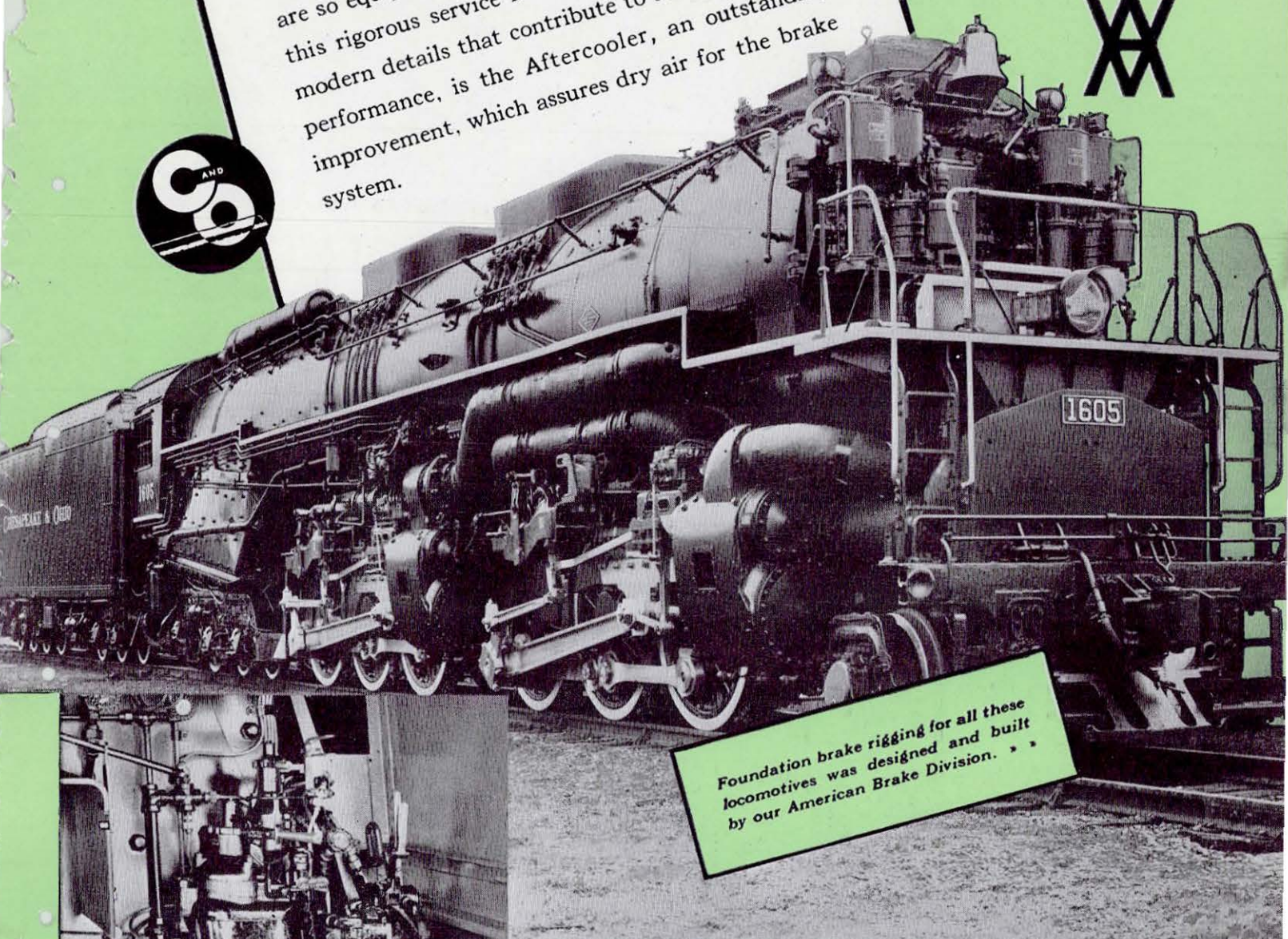
MONTH OF JANUARY OF CALENDAR YEAR 1942—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of: Way and structures	Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income: 1942	1941
Erie	Jan.	2,251	$8,583,332	$452,506	$9,526,308	$775,088	$1,660,553	$196,084	$3,666,797	$6,612,828	69.4	$2,913,480	$1,803,978	$1,462,147	$1,577,219
Florida East Coast	Jan.	685	800,910	393,472	1,333,483	148,629	223,687	34,065	510,922	1,016,370	76.2	317,113	237,247	192,695	283,993
Georgia Railroad	Jan.	329	490,567	62,482	580,544	46,817	73,713	20,590	218,560	376,020	64.8	204,524	184,738	177,520	92,188
Georgia & Florida	Jan.	408	151,922	2,282	158,201	33,854	20,474	9,948	52,187	122,488	77.4	35,713	26,627	15,457	—3,288
Grand Trunk Western	Jan.	1,028	2,152,000	91,000	2,389,000	310,386	479,187	38,283	1,026,092	1,931,161	80.8	457,839	309,803	244,814	387,469
Canadian National Lines in New England	Jan.	172	208,800	3,700	233,500	40,493	30,364	2,506	97,424	184,621	79.0	48,879	30,359	—29,738	—33,783
Great Northern	Jan.	8,077	8,080,786	424,397	9,130,887	1,129,443	2,184,732	191,547	3,183,680	7,021,380	76.9	2,109,507	1,147,293	1,004,614	27,581
Green Bay & Western	Jan.	234	169,377	322	174,137	25,739	22,280	9,015	59,167	122,431	70.3	51,706	33,146	24,191	36,856
Gulf & Ship Island	Jan.	259	134,730	16,378	160,714	21,643	22,286	3,234	67,552	121,331	75.5	39,383	20,220	7,976	2,717
Gulf, Mobile & Ohio	Jan.	1,973	1,927,455	50,915	2,054,027	320,246	325,150	89,568	656,340	1,490,817	72.6	563,210	360,890	253,147	252,101
Illinois Central	Jan.	4,951	9,971,227	1,270,128	11,940,238	1,148,883	2,702,670	235,872	4,281,904	8,813,623	73.8	3,126,615	1,764,054	1,692,349	2,012,978
Yazoo & Mississippi Valley	Jan.	1,550	1,833,212	118,024	2,046,006	155,035	265,655	39,040	712,410	1,235,057	60.4	810,949	649,105	564,584	188,174
Illinois Central System	Jan.	6,501	11,804,439	1,388,152	13,986,244	1,303,918	2,968,325	274,912	4,994,314	10,048,680	71.8	3,937,564	2,408,105	2,262,846	2,210,064
Illinois Terminal	Jan.	476	474,443	85,317	618,265	54,328	91,216	18,934	212,080	395,676	64.00	222,589	146,905	125,676	88,704
Kansas City Southern	Jan.	880	1,533,333	90,174	1,762,930	232,348	277,869	51,735	534,047	1,171,665	66.5	591,265	443,265	339,806	314,483
Kansas, Oklahoma & Gulf	Jan.	328	208,748	476	212,249	11,952	10,968	10,006	56,313	100,561	47.4	111,688	77,214	56,454	82,238
Lake Superior & Ishpeming	Jan.	156	33,793	55	36,538	20,203	46,392	671	25,923	101,419	277.6	—64,881	—90,389	—84,338	—63,838
Lehigh & Hudson River	Jan.	96	222,837	.....	223,546	21,370	33,390	4,378	66,567	132,308	59.2	91,238	49,269	32,227	25,598
Lehigh & New England	Jan.	190	379,545	.....	381,661	36,243	87,022	8,100	131,392	278,294	72.9	103,367	61,986	71,375	110,672
Lehigh Valley	Jan.	1,263	4,345,667	218,462	4,851,472	401,700	891,888	107,998	2,220,012	3,786,835	78.1	1,064,637	628,128	300,511	820,445
Louisiana & Arkansas	Jan.	877	833,698	48,405	920,379	146,465	123,941	37,121	253,847	601,114	65.3	319,265	224,567	175,893	173,671
Louisville & Nashville	Jan.	4,799	9,237,378	1,105,888	10,981,445	1,189,945	2,235,223	208,742	3,891,987	7,892,105	71.9	3,089,340	1,502,605	1,744,235	1,848,437
Maine Central	Jan.	991	1,173,464	105,937	1,381,071	166,330	263,954	11,309	495,085	983,421	71.2	397,650	248,358	199,171	182,745
Midland Valley	Jan.	351	127,879	4	130,691	10,305	7,737	2,800	42,949	71,426	54.7	59,265	43,930	27,083	38,331
Minneapolis & St. Louis	Jan.	1,409	949,393	15,931	1,002,904	66,137	161,935	57,037	361,883	692,284	69.0	310,620	258,394	211,194	52,006
Minneapolis, St. Paul & Sault Ste. Marie	Jan.	4,277	2,669,453	73,116	2,907,788	354,257	541,418	70,211	1,274,252	2,345,478	80.7	562,310	310,758	209,007	41,033
Duluth, South Shore & Atlantic	Jan.	550	278,545	10,058	303,365	43,575	58,059	8,676	113,419	231,086	76.2	72,279	55,115	51,292	23,417
Spokane International	Jan.	152	69,445	752	77,868	15,456	8,315	2,581	26,368	57,148	73.4	20,720	15,211	11,277	10,820
Mississippi Central	Jan.	158	95,676	978	97,726	23,576	12,459	8,055	24,540	73,314	75.0	24,412	19,140	12,321	27,927
Missouri & Arkansas	Jan.	365	103,204	1,785	118,834	23,704	12,914	8,029	46,817	96,783	81.4	22,051	17,107	5,403	8,371
Missouri-Illinois	Jan.	172	215,181	195	216,776	15,461	28,095	3,730	62,506	116,341	53.7	100,435	60,638	47,024	58,179
Missouri-Kansas-Texas Lines	Jan.	3,293	2,621,588	458,713	3,369,178	393,889	580,859	124,478	1,267,456	2,526,173	75.0	843,005	647,773	394,000	174,747
Missouri Pacific	Jan.	7,136	8,672,030	1,064,319	10,558,286	1,107,603	1,772,333	284,121	3,746,037	7,278,296	68.9	3,279,990	2,693,800	2,258,237	1,524,162
Gulf Coast Lines	Jan.	1,772	2,092,767	80,412	2,253,853	264,574	241,890	45,292	623,364	1,239,331	54.99	1,014,522	925,211	729,207	312,026
International Great Northern	Jan.	1,155	1,050,577	133,974	1,316,778	201,523	253,635	29,374	528,447	1,079,836	82.0	236,942	164,818	94,236	57,603
Monongahela	Jan.	172	552,624	501	555,681	49,354	44,533	542	138,936	236,355	42.5	319,326	216,677	116,912	98,794
Montour	Jan.	51	177,539	.....	179,439	9,894	57,062	819	57,700	132,930	74.1	46,509	7,080	43,321	55,782
Nashville, Chattanooga & St. Louis	Jan.	1,111	1,441,361	220,207	1,837,540	238,666	363,628	76,222	736,337	1,478,437	80.5	359,103	217,168	210,933	225,521
Nevada Northern	Jan.	165	53,388	643	56,679	9,451	2,910	1,219	9,917	29,087	51.3	27,592	10,769	12,542	8,816
New York Central	Jan.	10,918	29,033,588	6,916,857	39,469,610	4,165,640	8,855,419	604,102	16,259,022	31,582,712	80.0	7,886,898	4,377,491	3,178,567	4,750,949
Pittsburgh & Lake Erie	Jan.	232	2,331,567	56,977	2,454,218	218,064	878,447	40,928	807,068	2,046,218	83.4	408,000	61,199	469,097	472,397
New York, Chicago & St. Louis	Jan.	1,688	5,227,880	100,454	5,446,595	526,230	760,822	132,134	1,984,899	3,547,373	65.1	1,899,222	1,385,067	1,020,986	1,032,730
New York, New Haven & Hartford	Jan.	1,839	5,916,666	3,074,572	9,814,793	1,073,215	1,620,193	116,312	3,798,481	7,102,094	72.4	2,712,699	1,812,699	968,060	900114
New York Connecting	Jan.	21	228,737	.....	237,206	56,381	6,753	.....	41,054	105,826	44.6	131,380	86,120	141,060	257,648
New York, Ontario & Western	Jan.	547	440,707	5,367	487,312	58,708	101,190	16,907	275,758	475,343	97.5	11,969	—17,474	—52,032	—56,134

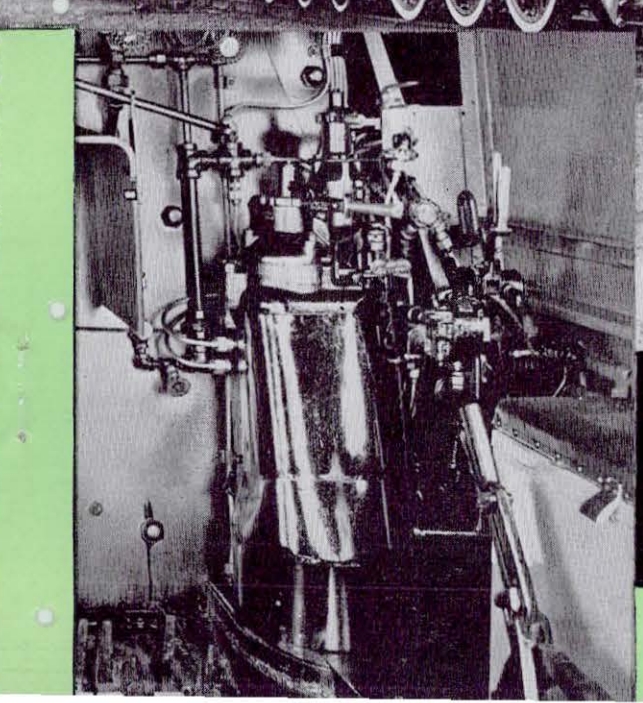
Continued on next left-hand page

THE *Twenty New "Alleghenies"* have *Westinghouse* No. 8-ET BRAKES

Still another railroad to adopt the modern No. 8-ET Brake for new motive power is the Chesapeake & Ohio. Twenty distinctive locomotives, built by Lima, which will haul heavier trains at higher speeds over Allegheny Mountain grades, are so equipped. Adequate and flexible control for this rigorous service is thereby provided. Among modern details that contribute to the reliability of performance, is the Aftercooler, an outstanding improvement, which assures dry air for the brake system.



Foundation brake rigging for all these locomotives was designed and built by our American Brake Division. » »



Westinghouse...

AIR BRAKE COMPANY

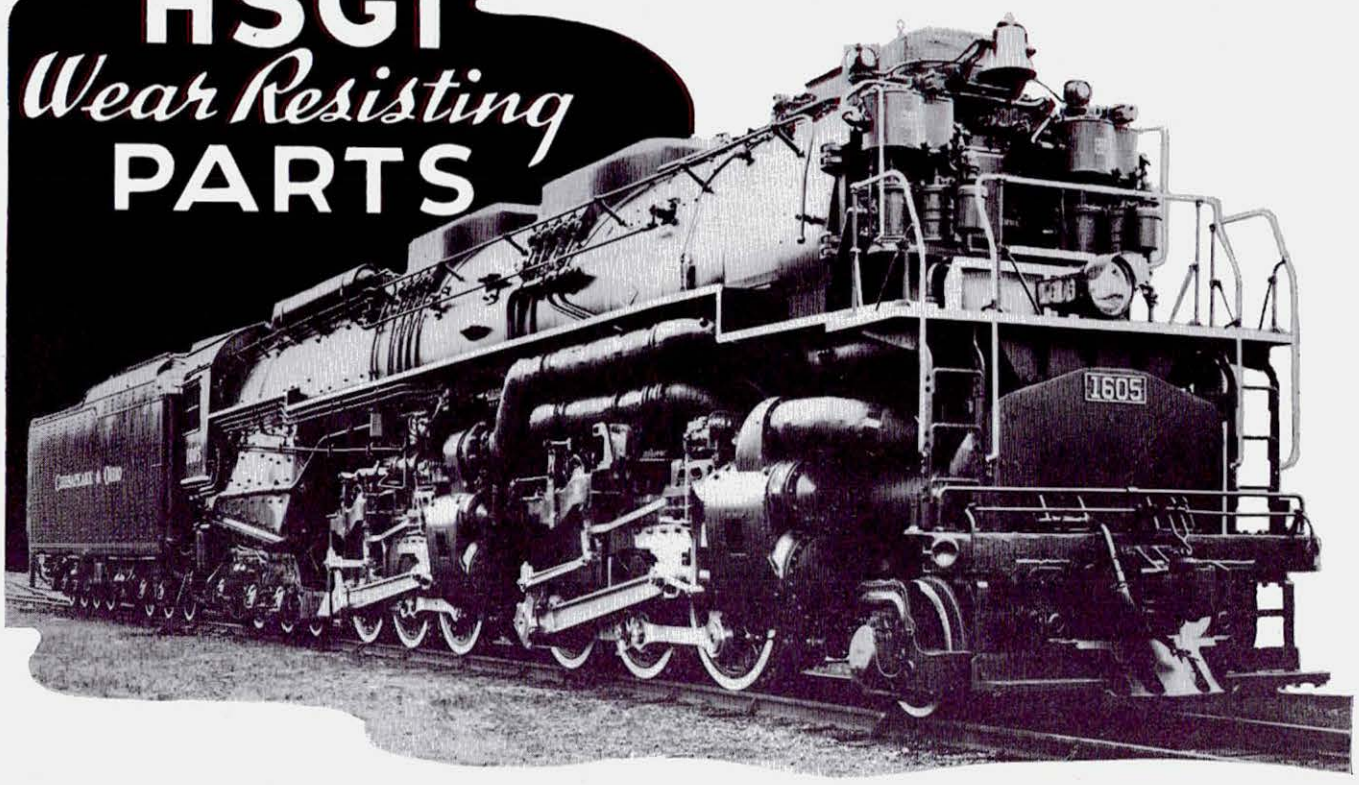
WILMERDING, PENNSYLVANIA

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF JANUARY OF CALENDAR YEAR 1942—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of: Way and structures	Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income: 1942	1941
New York, Susquehanna & Western	Jan.	274	$259,300	$30,911	$317,516	$25,483	$30,806	$2,198	$136,989	$206,409	65.0	$111,107	$80,525	$43,114	$52,679
Norfolk & Western	Jan.	2,181	9,850,670	401,169	10,535,864	1,011,478	2,092,739	161,504	2,419,738	6,008,824	57.0	4,527,040	1,772,353	2,263,289	2,937,497
Norfolk Southern	Jan.	733	448,008	5,907	470,933	98,291	64,118	26,029	173,264	385,976	82 0	84,957	50,546	29,233	26,520
Northern Pacific	Jan.	6,889	6,476,686	424,766	7,480,445	874,583	1,706,508	163,974	2,704,662	5,802,402	77.6	1,678,043	805,067	1,194,214	634,822
Northwestern Pacific	Jan.	345	290,276	7,271	313,896	95,131	50,878	2,841	132,153	288,195	91.8	25,701	2,124	—9,551	—55,711
Oklahoma City-Ada-Atoka	Jan.	132	68,342	.....	69,022	8,899	832	961	18,352	31,150	45.1	37,872	28,942	18,893	495
Pennsylvania	Jan.	10,215	41,228,689	10,204,370	55,348,172	5,743,067	12,536,019	792,110	21,807,298	42,619,667	77.0	12,728,505	6,854,203	5,838,630	6,375,715
Long Island	Jan.	378	747,184	1,378,273	2,244,558	265,795	385,006	9,194	1,113,693	1,844,211	82.2	400,347	173,785	142	—52,139
Pennsylvania-Reading Seashore Lines	Jan.	406	423,849	95,847	543,163	92,313	95,485	7,210	342,994	557,013	102.5	—13,850	—100,340	—188,238	—210,500
Pere Marquette	Jan.	2,055	2,941,571	113,626	3,180,644	398,619	673,829	66,230	1,262,900	2,513,718	79.0	66,926	397,669	326,319	536,773
Pittsburg & Shawmut	Jan.	97	89,437	.....	90,060	9,344	19,058	1,984	25,155	59,856	66.5	30,204	27,172	25,692	12,738
Pittsburgh & West Virginia	Jan.	136	446,082	.....	465,658	47,787	94,662	18,911	100,879	292,394	62.8	173,264	121,155	141,554	120,658
Pittsburg, Shawmut & Northern	Jan.	190	123,576	.....	124,482	20,576	28,303	1,002	49,566	105,088	84.4	19,394	12,297	5,859	43,347
Reading	Jan.	1,431	6,234,722	415,454	6,989,975	577,575	1,650,466	75,173	2,648,523	5,124,787	73.3	1,865,188	1,082,688	949,892	1,275,394
Richmond, Fredericksburg & Potomac	Jan.	118	932,151	603,736	1,667,532	91,967	186,458	10,633	513,730	876,756	52.6	790,776	410,790	316,429	181,309
Rutland	Jan.	407	221,179	35,474	311,974	35,675	66,210	9,770	161,858	285,350	91.5	26,624	6,055	9,207	—26,546
St. Louis-San Francisco	Jan.	4,766	4,372,404	622,659	5,420,239	631,295	1,078,791	129,701	2,076,663	4,150,015	76.6	1,270,224	908,504	994,466	832,978
St. Louis, San Francisco & Texas	Jan.	159	164,186	444	169,876	24,916	21,330	8,057	64,123	124,671	73.4	45,205	35,890	10,600	—11,487
St. Louis Southwestern Lines	Jan.	1,617	2,434,493	154,222	2,681,562	338,171	350,324	99,900	812,983	1,699,375	63.4	982,187	718,146	563,425	453,511
Seaboard Air Line	Jan.	4,307	4,807,800	1,451,429	6,693,300	883,137	1,233,054	213,092	2,458,538	5,110,411	76.4	1,582,889	1,207,889	935,813	666,423
Southern Railway	Jan.	6,519	10,712,215	1,558,116	13,064,200	1,383,652	2,301,309	196,206	4,299,468	8,626,460	66.0	4,437,740	2,820,394	2,645,603	2,096,942
Alabama Great Southern	Jan.	315	884,597	151,368	1,103,790	98,412	200,586	19,836	335,122	688,979	62.4	414,811	225,091	215,638	115,179
Cincinnati, New Orleans & Texas Pacific	Jan.	337	1,666,717	202,602	1,963,189	197,709	461,005	30,892	533,411	1,292,720	65.9	670,469	378,122	402,231	521,997
Georgia Southern & Florida	Jan.	398	220,485	72,831	319,103	53,165	54,241	2,048	117,571	239,140	74.9	79,963	51,792	36,025	80,813
New Orleans & Northeastern	Jan.	204	447,111	93,236	572,065	43,691	54,085	10,325	151,511	281,958	49.3	290,107	189,349	150,754	75,493
Southern Pacific	Jan.	8,574	19,329,481	2,789,469	23,820,370	2,259,730	3,726,242	367,421	8,424,118	15,982,289	67.1	7,838,081	5,857,848	4,834,350	2,687,543
Southern Pacific Steamship Lines	Jan.		3,188	29	3,042	19,747	Cr. 684	1	15,098	42,000		—38,958	—39,209	—39,209	71,373
Texas & New Orleans	Jan.	4,417	5,025,752	615,745	5,991,099	855,470	871,929	137,371	1,836,233	3,949,642	65.9	2,041,457	1,530,246	1,185,906	654,220
Spokane, Portland & Seattle	Jan.	939	1,076,720	34,602	1,172,103	135,578	109,728	11,488	439,513	738,295	63.0	433,808	333,212	222,752	108,698
Tennessee Central	Jan.	286	251,895	7,927	275,404	53,241	45,318	7,749	102,932	221,569	80.5	53,835	35,781	25,704	42,019
Texas & Pacific	Jan.	1,889	2,285,448	563,766	3,111,408	378,271	556,575	84,586	995,555	2,169,970	69.7	941,438	657,988	532,915	502,151
Texas Mexican	Jan.	162	106,663	472	126,334	21,466	13,514	3,766	40,395	86,805	68.7	39,529	32,281	25,978	11,668
Toledo, Peoria & Western	Jan.	239	92,115	.....	94,610	20,187	17,081	16,557	88,370	157,210	166.2	—62,600	—76,993	—87,117	29,404
Union Pacific System	Jan.	9,871	16,100,622	2,113,345	19,756,504	1,606,965	3,991,431	428,057	7,366,386	14,363,638	72.7	5,392,866	3,179,223	2,416,456	1,267,762
Utah	Jan.	111	126,168	.....	126,209	20,075	33,288	427	33,283	91,421	72.4	34,788	18,128	16,430	12,468
Virginian	Jan.	653	2,432,792	3,091	2,515,951	185,163	485,112	26,504	447,369	1,190,861	47.3	1,325,090	702,590	723,121	1,024,907
Wabash	Jan.	2,409	4,267,632	330,356	4,919,663	501,466	704,249	163,084	1,905,850	3,473,984	70.6	1,445,679	907,647	580,720	604,536
Ann Arbor	Jan.	294	396,555	2,652	406,072	33,591	79,325	15,455	186,395	328,281	80.8	77,791	50,992	37,886	46,831
Western Maryland	Jan.	859	2,003,941	10,367	2,089,387	212,187	455,556	45,377	564,554	1,345,821	64.4	743,566	493,566	517,260	547,096
Western Pacific	Jan.	1,195	2,104,572	75,203	2,230,420	276,785	358,565	77,499	929,237	1,718,036	77.0	512,384	360,458	205,991	141,971
Wheeling & Lake Erie	Jan.	507	1,583,136	.....	1,643,027	179,477	335,420	40,707	520,754	1,111,972	67.7	531,055	71,330	235,382	361,949

HSGI *Wear Resisting* PARTS



ON THE NEW C & O LOCOMOTIVES

ALWAYS ready to answer the call for more transportation the Chesapeake & Ohio Railroad has made an outstanding contribution to the nation's locomotive inventory.

The 10 new Allegheny type locomotives recently delivered by the Lima Locomotive Co. and the additional lot of 10 similar units on order will prove to be a vital factor in the efficient and economical movement of one of the most vital commodities.

The application of HUNT-SPILLER *Air Furnace* GUN IRON Bushings and Packing Rings in the valves and cylinders of these giant locomotives is highly significant. Coal must not only be moved swiftly but it also must be conserved by prevention of steam leaks in valves and cylinders.

HSGI
Reg. U. S. Trade Mark
Cylinder Bushings
Cylinder Packing Rings
Pistons or Piston Bull Rings
Valve Bushings
Valve Packing Rings
Valve Bull Rings
Crosshead Shoes
Hub Liners
Shoes and Wedges
Floating Rod Bushings
Finished Parts
Dunbar Sectional Type Packing
Duplex Sectional Type Packing
for Cylinders and Valves
(Duplex Springs for Above
Sectional Packing)
Cylinder Snap Rings
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Cylinder Liners and Pistons
for Diesel Service

HUNT-SPILLER MFG. CORPORATION
V. W. Ellet Pres. & Gen. Mgr. / \ E. J. Fuller Vice-President

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383 Dorchester Ave. South Boston, Mass.
Canadian Representative: Joseph Robb & Co., Ltd., 5575 Cote St. Paul Rd., Montreal, P. Q.
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HUNT-SPILLER *Air Furnace* GUN IRON

THE CAREFUL INVESTOR JUDGES A SECURITY
BY THE HISTORY OF ITS PERFORMANCE
KERITE
IN THREE-QUARTERS OF A CENTURY OF
CONTINUOUS PRODUCTION HAS ESTABLISHED
A RECORD OF PERFORMANCE
THAT IS UNEQUALLED IN THE HISTORY OF
INSULATED WIRES AND CABLES
THE KERITE INSULATED WIRE & CABLE COMPANY INC
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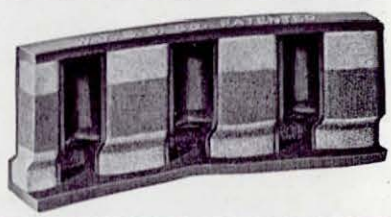

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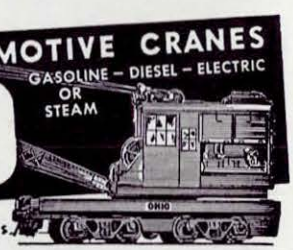
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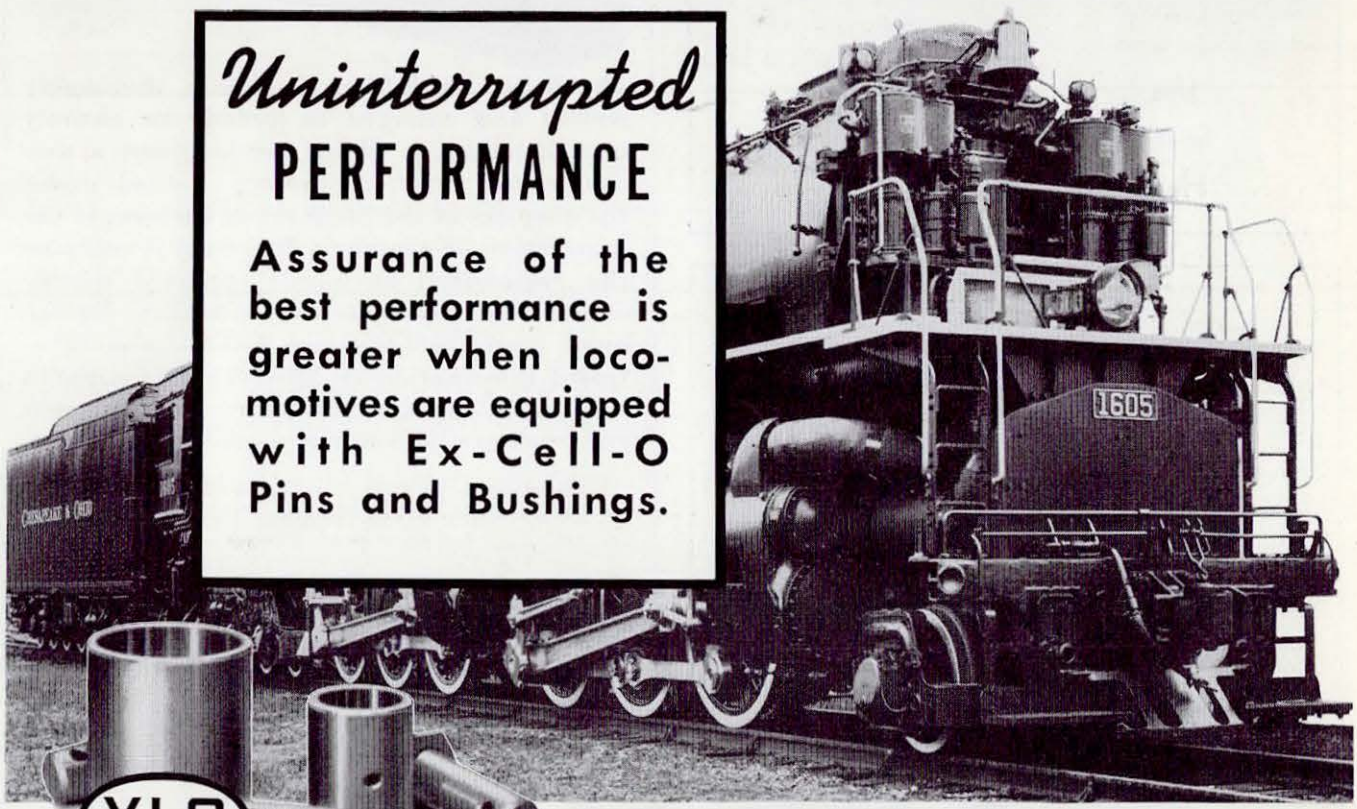

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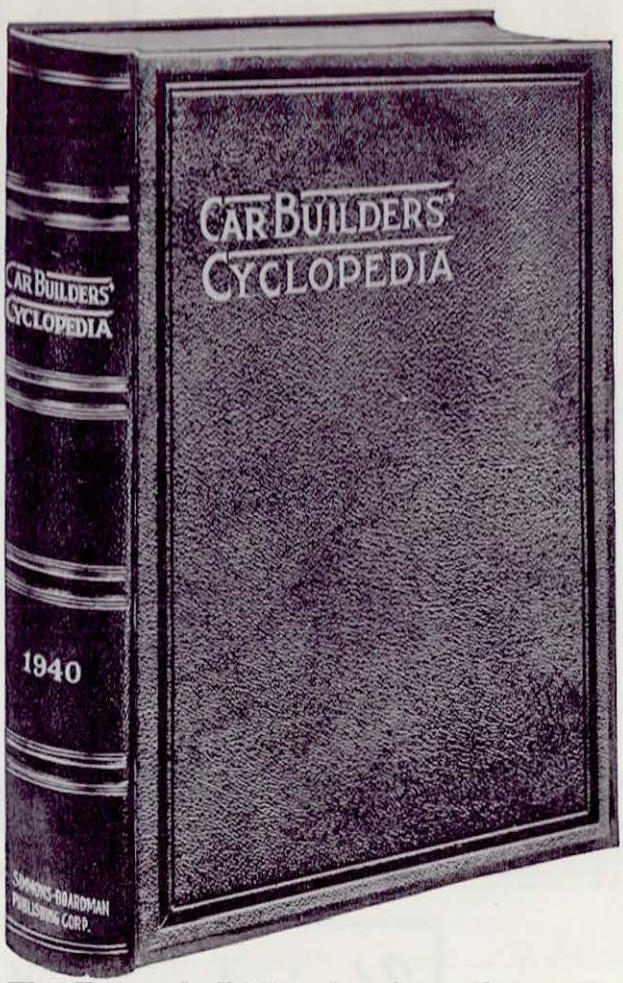

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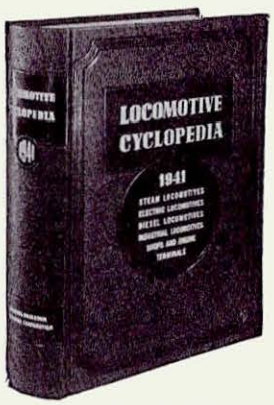

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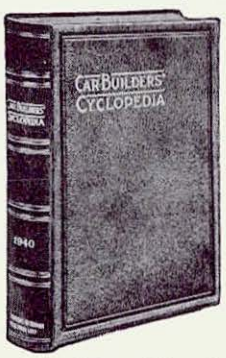

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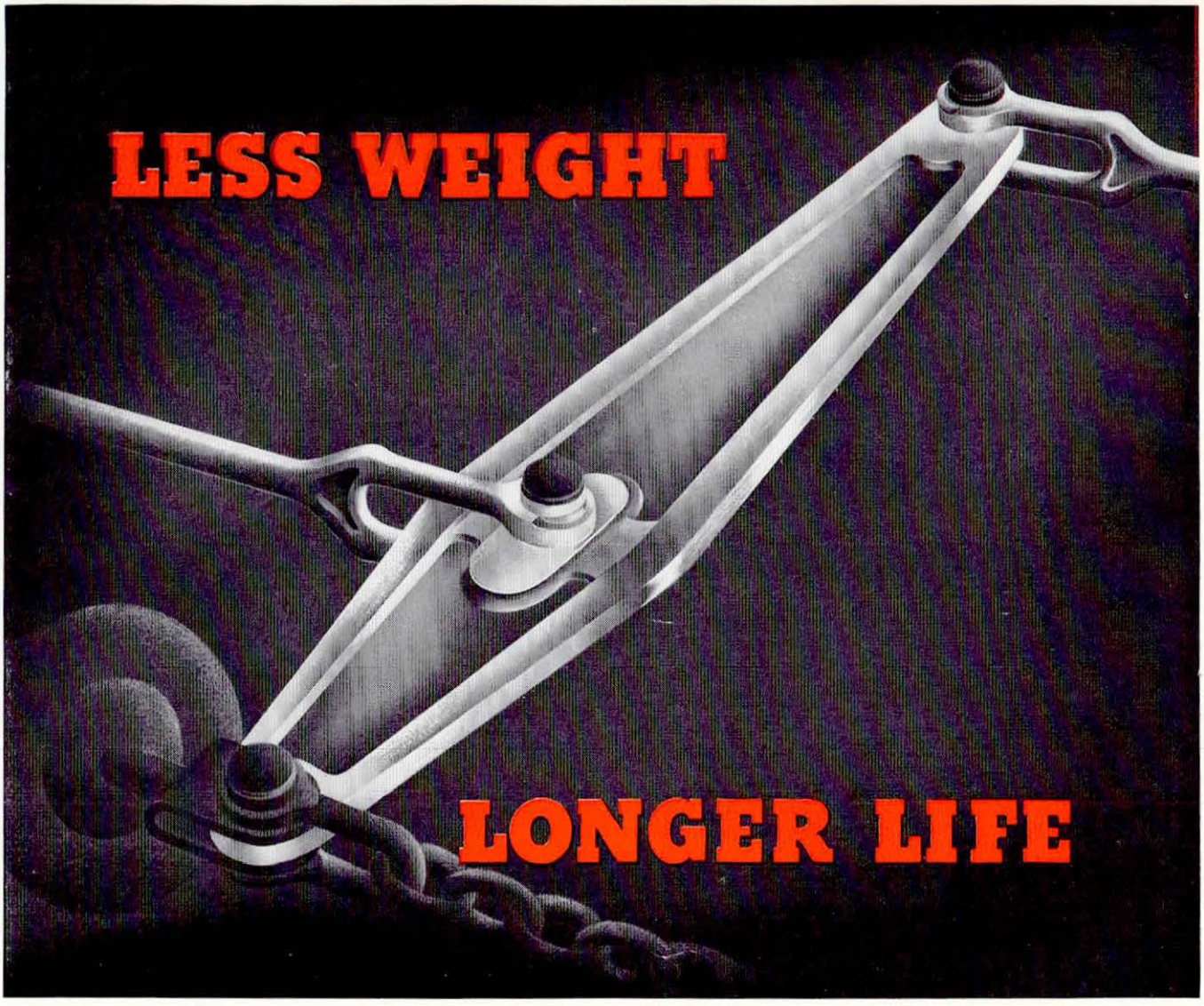

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